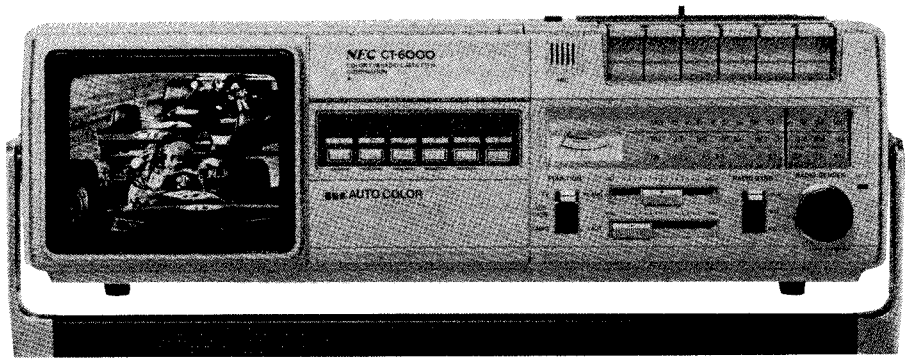
NEC

MODEL CT-6000P-2B2

COLOUR TELEVISION SERVICE MANUAL

SER. NO. 1079

Better Service
Better Reputation
Better Profit



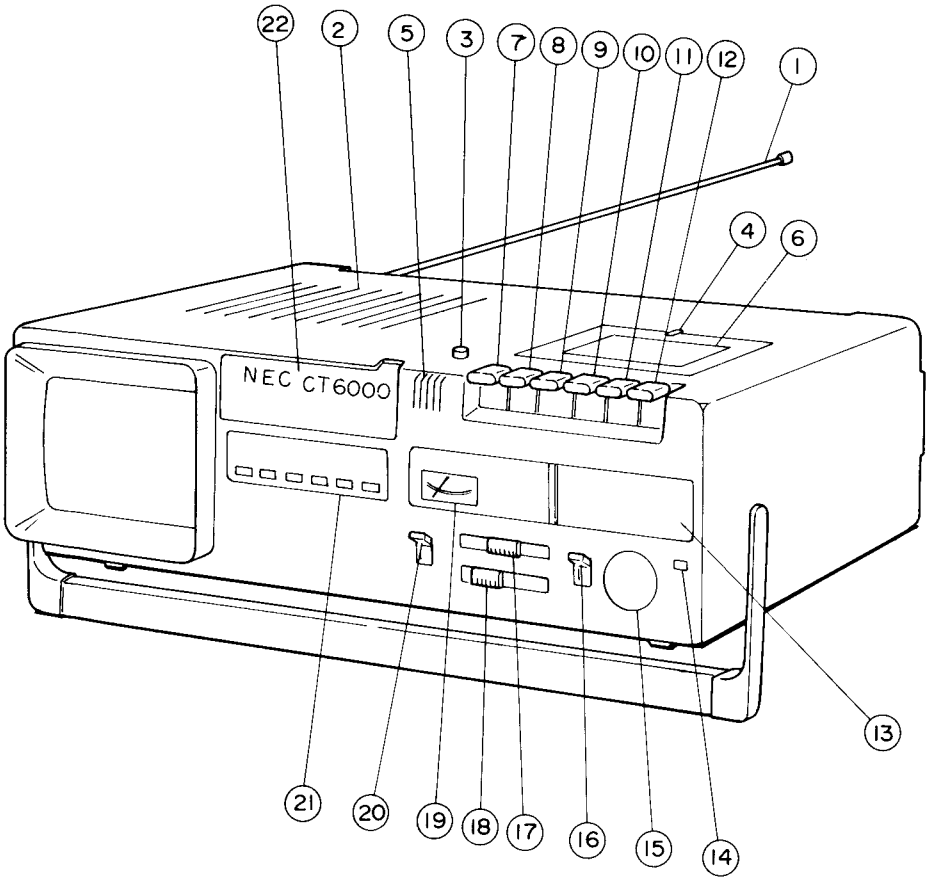
SPECIFICATIONS

Power Supply	:	AC 220V, 50Hz DC 12V Battery SUM-1, R20 ro SIZE "D" x 10
TV Receiving Channels	:	VHF Band I Ch 2 ~ Ch 4 VHF Band III Ch 5 ~ Ch 12 UHF Band IV/V Ch 21 ~ Ch 69
Picture Tube	:	140 DCB 22
Radio Receiving Band	:	UKW 88MHz ~ 108 MHz KW 3.9MHz ~ 12MHz MW 525kHz ~ 1605kHz
Antenna Input	:	IEC 75-ohm
Cassette		
Frequency Response	:	100 - 8000 Hz
S/N Ratio	:	38 dB
Wow & Flutter	:	0.3% (RMS)
Power Consumption	:	AC . . . 29 W DC . . . 17 W
Speaker	:	12 cm, Round Type
Audio Output Power	:	2 W
Semi-Conductors		
ICs	:	7
Transistors	:	37
Diodes	:	63
Dimensions	:	420(W) x 130(H) x 35 (D) mm
Weight	:	7.5 kgs

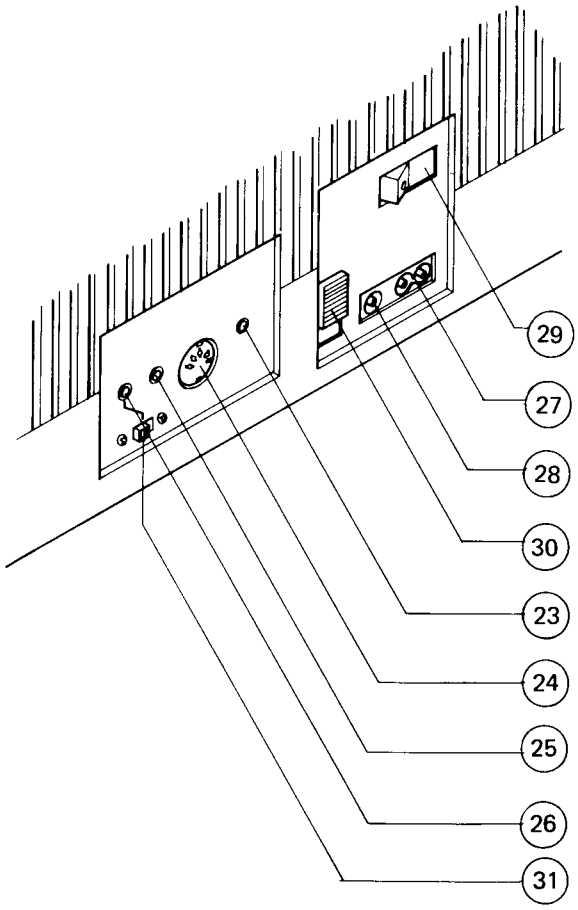
Nippon Electric Co.,Ltd.
TOKYO, JAPAN

MC-Service

DESIGNATION OF EACH PART

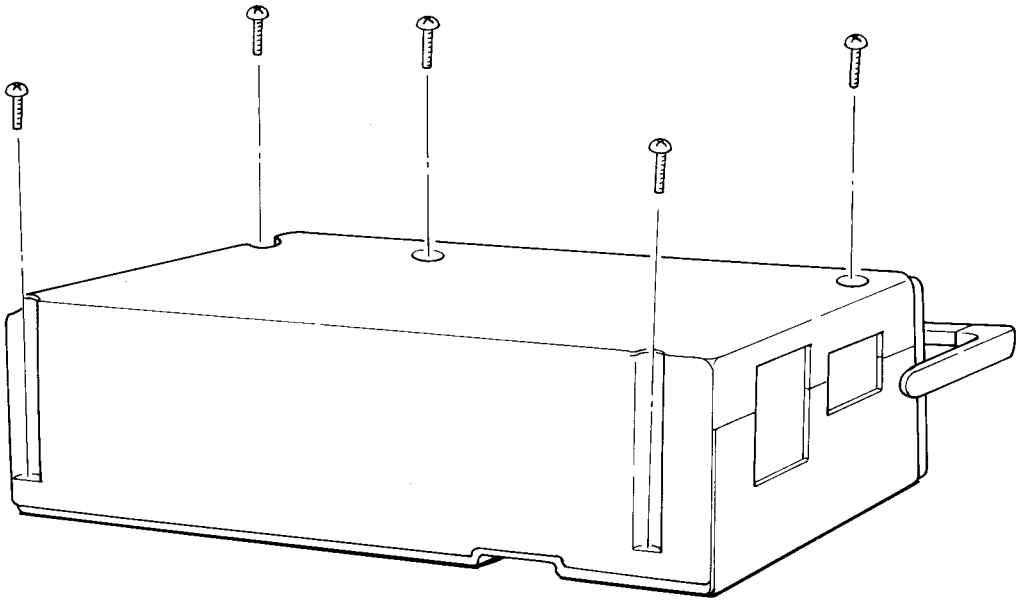


1. Telescopic Rod Aerial
2. Speaker
3. AFC/LIGHT Switch
4. Tape Counter/Reset Button
5. Built-in Microphone
6. Cassette Compartment
7. Record Key
8. Review/Rewind Key
9. Cue/Fast Forward Key
10. Play Key
11. Stop/Cass Key
12. Pause Key
13. Radio Dial
14. "Netz" (AC) Indicator
15. Radio Tuning Knob
16. Radio Band Selector Switch
17. Tone Control
18. Volume Control
19. Tuning/Level/Battery Meter
20. Function Selector Switch
21. TV Channel Selector Switch
22. TV Channel Preset Compartment



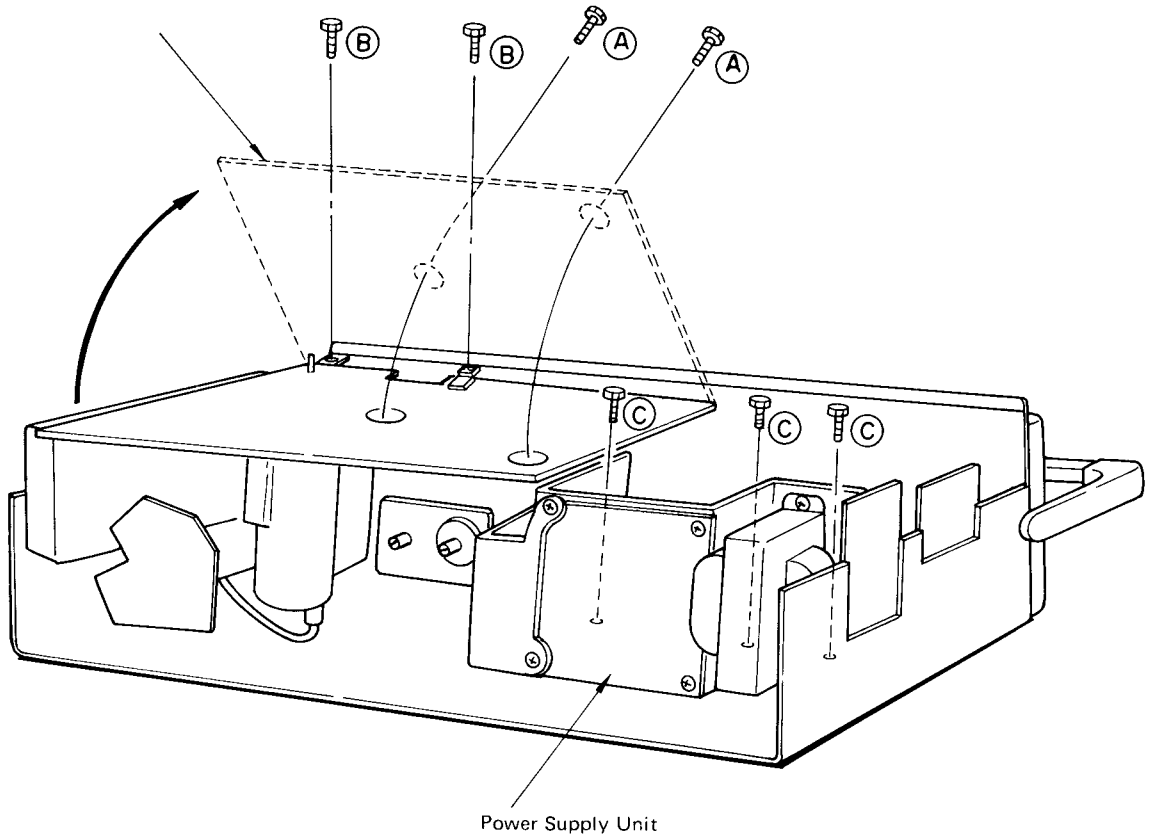
23. Earphone Jack
24. DIN/EIN (DIN/IN) Jack
25. Remote Jack
26. External Microphone Jack
27. AC Receptacle
28. External DC Receptacle
29. Mains Switch
30. Operate/Charge Selector Switch
31. Mic. Gain Switch

DISASSEMBLY INSTRUCTIONS



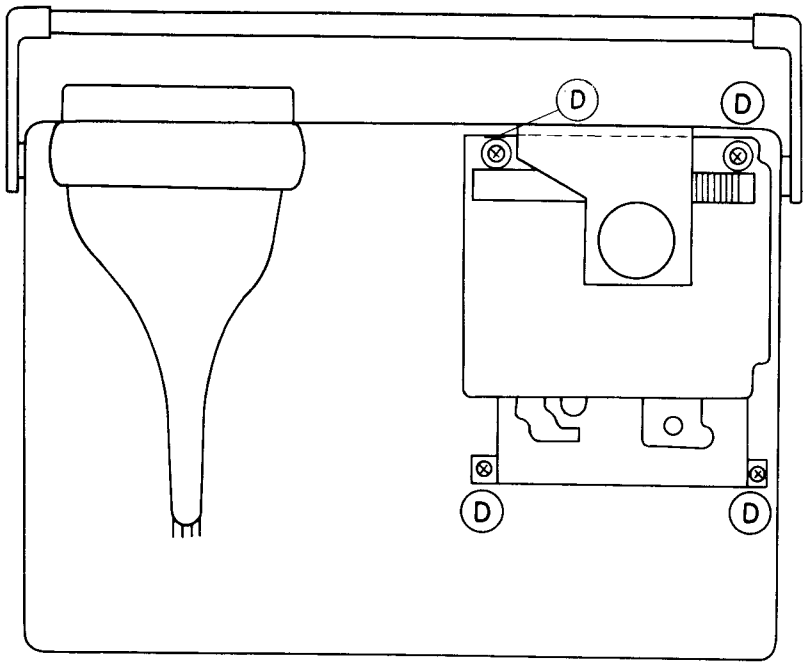
Cabinet Back Removal.

1. Turn the cabinet set upside down.
2. Remove the five screws, and the cabinet back can be taken out.



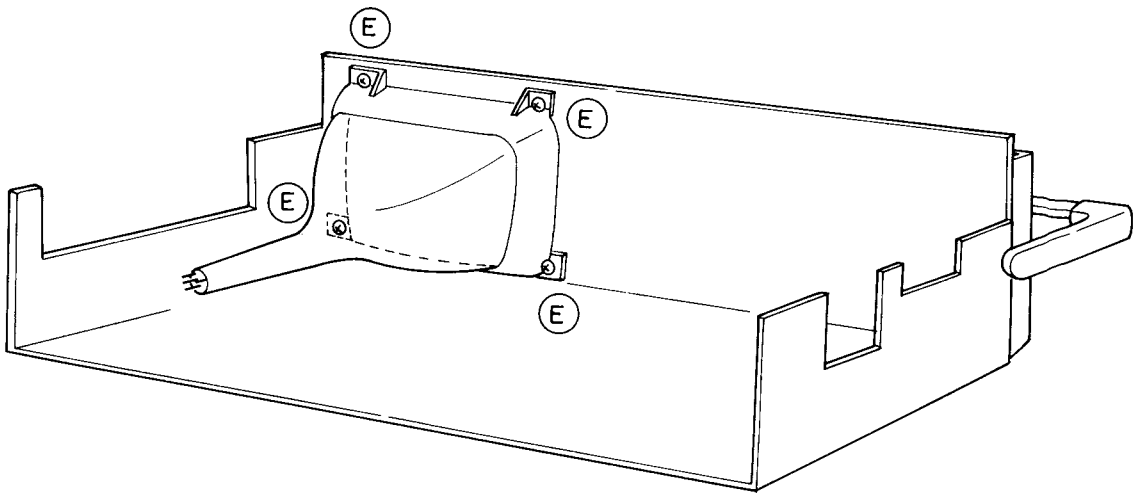
PWB Removal.

1. Remove the screw A in two places. Then the Main PWB can be unfolded.
2. Remove the screw B in two places. The Main PWB will then be free from the cabinet.
3. Remove the screw C in three places, and the Power Supply Unit can be taken out.



Radio Cassette Unit Removal.

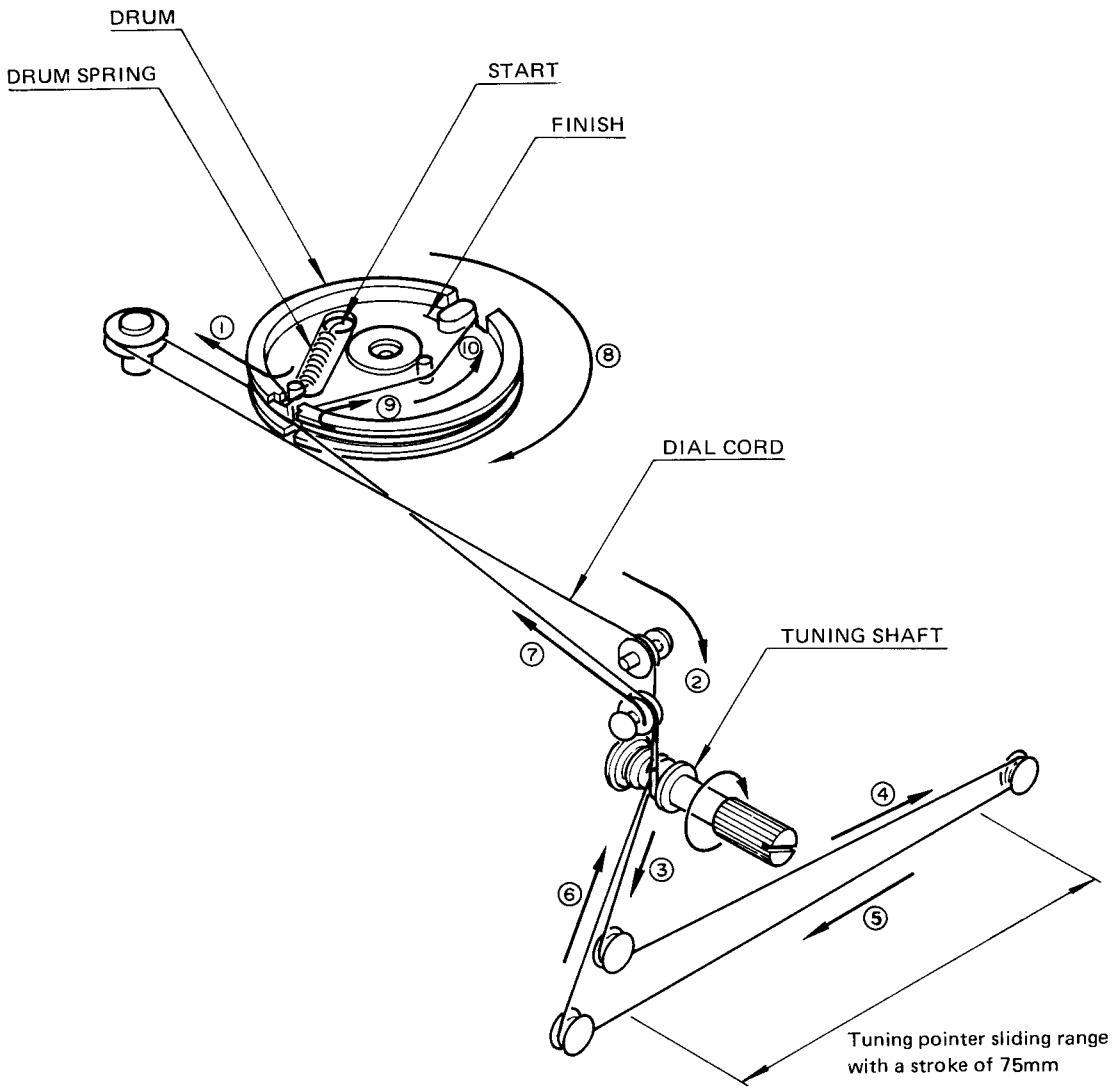
1. Remove the screw D in four places, and the Radio Cassette Unit can be taken out.



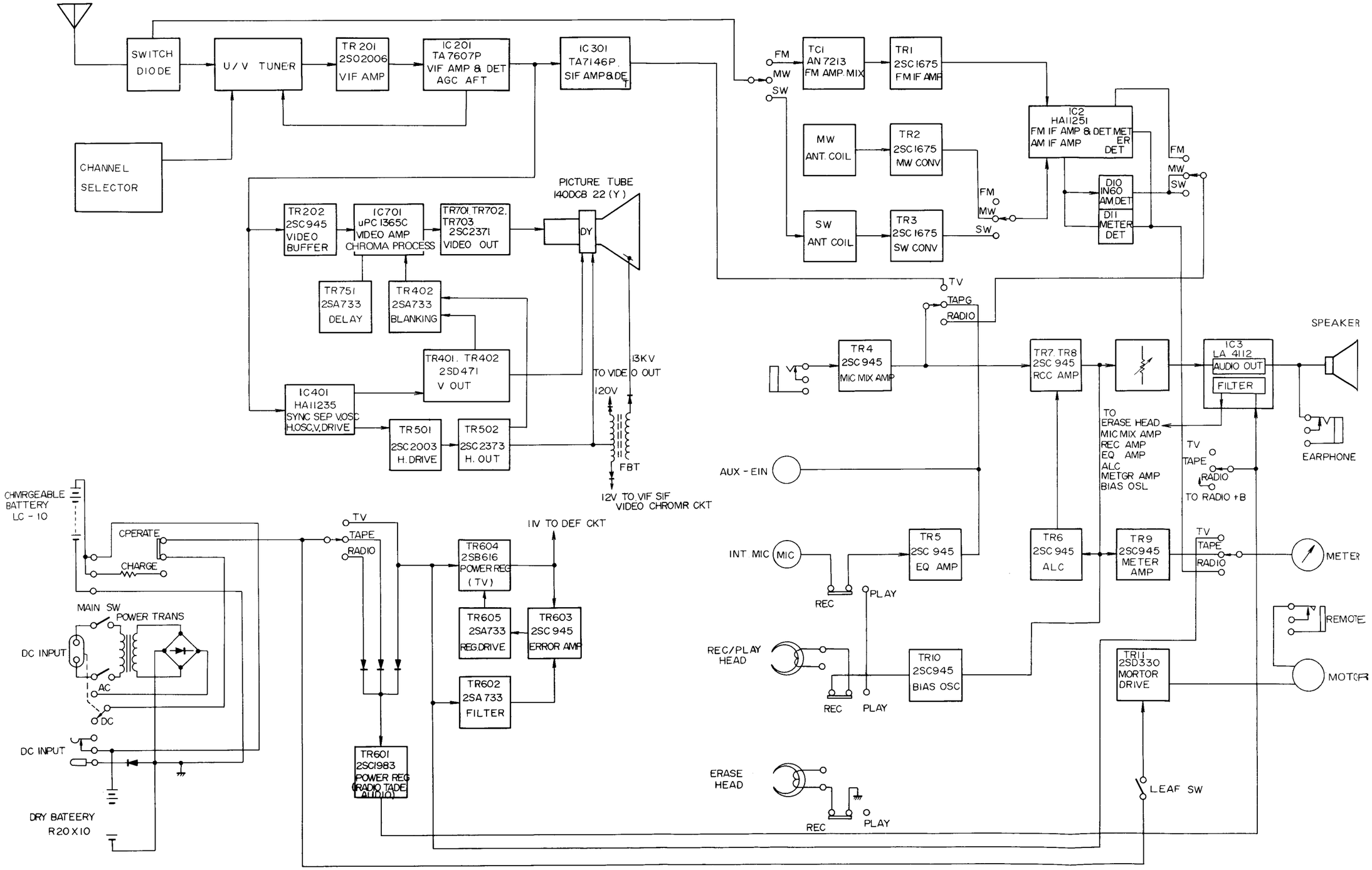
Picture Tube Removal.

1. Remove the screw E in four places. Then the CRT can be taken out.

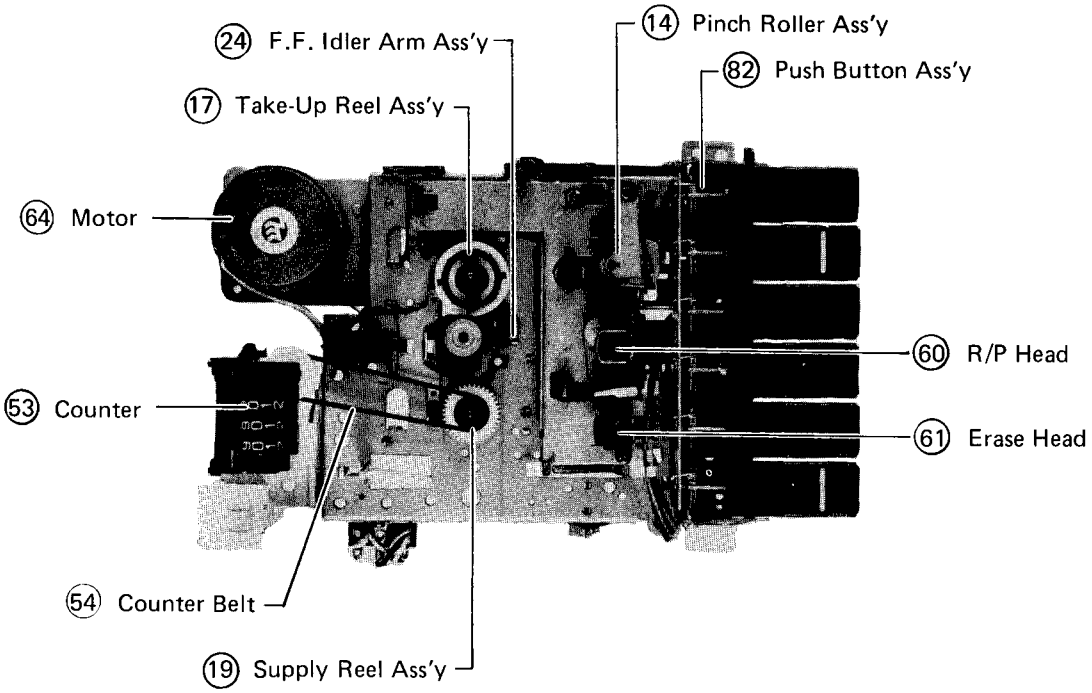
DIAL CORD STRINGING



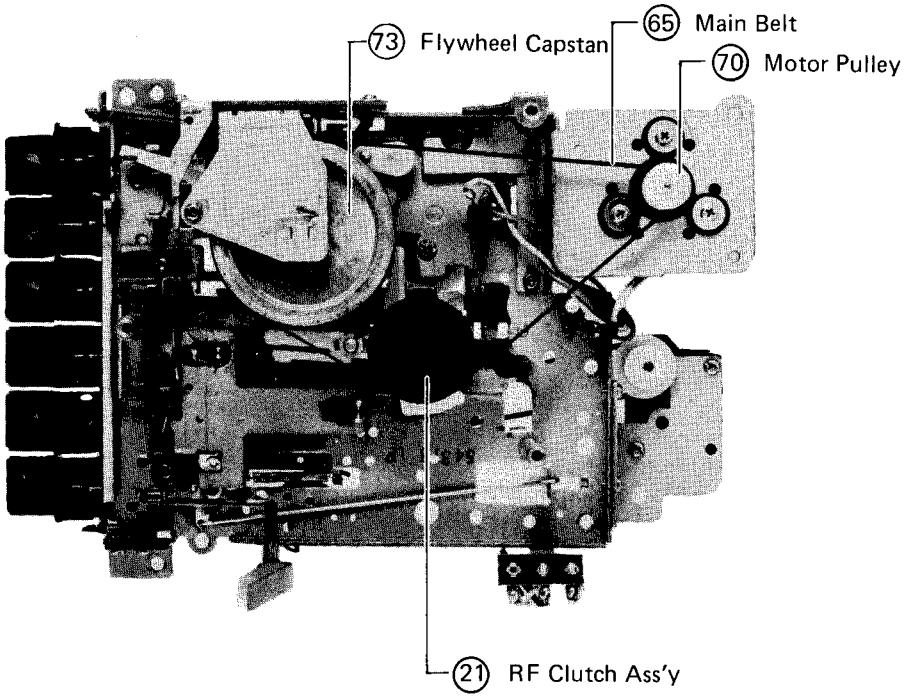
BLOCK DIAGRAM



Location of Mechanism Unit



Top View



Bottom View

ALIGNMENT PROCEDURE

TV SECTION

1. DC Supply Voltage Adjustment

1-1 Preparation

(1) Plug in the mains plug to the socket.

(2) Connect DC voltmeter between "J1" (+B line) and ground.

(3) Receive TV signal then set Brightness control (VR2) and Contrast control (VR1) to max. position.

1-2 Alignment

Adjust VR601 to read the voltage 11.0V.

2. V.I.F. Section

(1) Input 38.9 MHz carrier through Pad (Fig. 1) to Tuner RF TP. Carrier level to be 90 dB u.

(2) Connect Fig. 2 VR to TP-201 (IC201 #14 pin). Adjust IF AGC bias to 8.0V. (IF gain attenuation to be approx. −26 dB).

(3) Connect 15V range DC V.T.V.M. to TP-205. Rotate T-203 (Final stage) to obtain minimum voltage reading on V.T.V.M.

(4) Connect above V.T.V.M. to TP-204, Rotate T-204 (AFT) until center voltage of 6V is obtained with side amplitude voltage of 3V and 9V respectively is obtained to obtain proper center voltage of 6V.

3. RF AGC adjustment

(1) Apply the monoscope signal of 60 dBμ output level to the antenna terminal.

(2) Connect the DC voltmeter to VHF tuner AGC terminal (IC201 #4).

(3) AFT "ON".

(4) Adjust VR201 to obtain 7V on the DC voltmeter.

(5) Increase the signal input level by 5 dB and confirm that AGC voltage decreases.

(6) Repeat (4) and (5), if necessary.

4. Chroma Section

A. Delay line adjustment

(1) Input PM 5509 "DEM" signal.

(2) AFT "ON", Colour Control (VR6) normal.

(3) Connect oscilloscope to TP752 (IC701 #26pin) through Pad Fig. 4, set oscilloscope range to 0.5V/cm. (When using x 10 probe set range to 0.05V/cm.)

(4) Rotate T-752, T-753 and adjust first bar of each line to same height. Confirm that core of each transformer does not become set extreme ends.

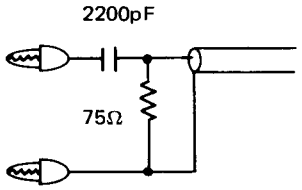


Fig. 1

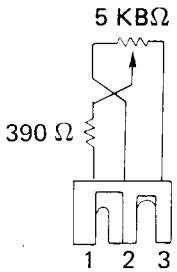


Fig. 2 TP 201 E 12V

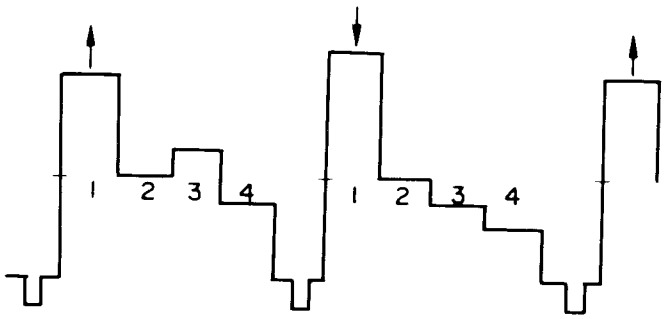


Fig. 3

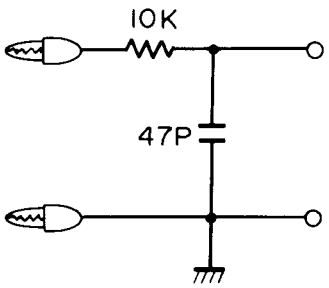


Fig. 4

(5) Adjust VR-753 to align third bar to same height.

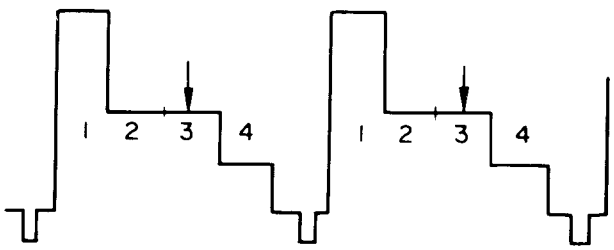


Fig. 5

(6) Adjust VR-752 to align fourth bar to same height.

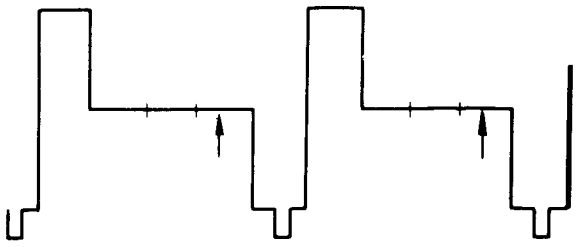


Fig. 6

(7) Reduce brightness to confirm no blind exists.
(8) If necessary repeat steps (4) – (6).

B. Colour hold
(1) Input colour bar signal. AFT "ON".
(2) SW-751 in "ADJUST" position.
(3) Adjust VR-751 and obtain signal colour bar.

C. Colour killer
(1) Input monoscope signal, fine tuning set slightly in higher frequency position.
(2) Adjust VR-754 until colour noise elimination point reached.

5. Video Section

Sub-Bright
(1) Connect 0.3mA range miliampere meter to limiter check terminal.
(2) With brightness VR in Max. position and contrast VR in min. position, adjust sub-bright VR until meter reading of 0.13mA is obtained.
(3) Set brightness VR and contrast VR to max. position, confirm black level becomes gray level.

6. CRT Unit

(1) Input monoscope signal, bright contrast to be set in max. position.
(2) VR703, VR704 set in mechanical center screen VR rotated in counterclockwise direction VR705, VR706, VR707 set in mechanical center.
(3) SW-701 in "SERVICE" position.
(4) If horizontal raster is not seen, rotate screen VR in clockwise direction and set screen VR to the last of R.G.B. colour to be seen, which sets screen VR to the deepest colour gun, do not disturb screen VR after setting position.
(5) Adjust bias of other two colour shallow cut off until white horizontal raster line is seen.
(6) SW-701 in "NORMAL" position, adjust white balance with VR703, VR704 (DRIVE).
(7) Repeat steps (3) – (6) adjustments.

7. Deflection Unit

(1) Horizontal hold sync.
Input monoscope signal. Connect 0.1μF, 16V capacitor between TP-31 and earth. Adjust VR501 until single image is obtained.
(2) Horizontal position
Change H. Center selector tip to CRT center.
(3) Vetical Bias
Adjust VR401 to obtain 4.6V DC on TR401 Emitter.
(4) Vertical amplitude
Adjust VR402 until perfect circle and size is obtained per Fig. 7.
(5) Vertical position
Change V. Center selector tip to CRT center as per Fig. 7.

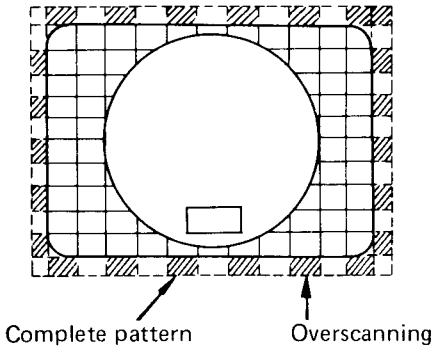


Fig. 7

8. Focus Unit.

A. Focus adjustment
(1) Input monoscope signal.
(2) Bright, Contrast in max position.
(3) Adjust Focus VR until optimum focus of image center is obtained.

9. Purity and Convergence Adjustment Section.

9-1 Purity adjustment to be immediately completed after 10 minute heat run.
(1) De-Gauss CRT with DE-Gausser.
(2) Input monoscope pattern.
(3) Check whether static magnet of DY is in correct position (Fig. 8).

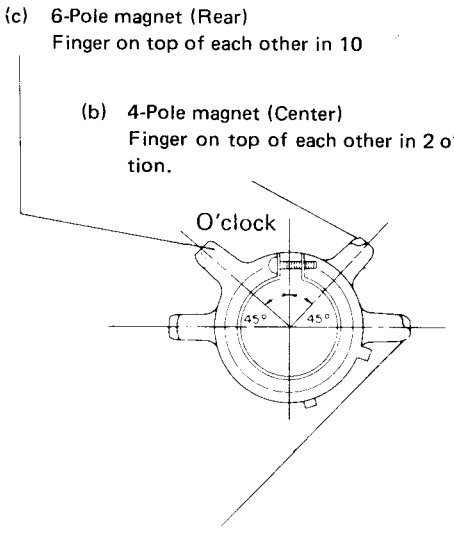
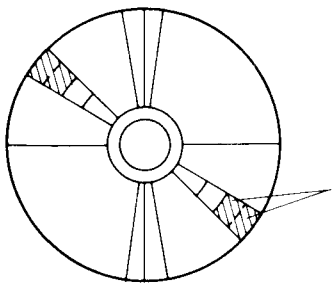

(c) 6-Pole magnet (Rear)
Finger on top of each other in 10
(b) 4-Pole magnet (Center)
Finger on top of each other in 2 o'clock position.
O'clock
45°
45°
(a) Purity magnet (2 EA foremost front) long and short finger on top of each other in 3 o'clock & 9 o'clock position.

Fig. 8 Various magnet position as viewed from rear of CRT neck.

NOTE: In step 3, when the 4 pole and 6 pole magnet fingers are correctly layered together the magnet field is "0", and R.G.B. static convergence should not be off greatly.
If greatly off, perform rough convergence adjustment before proceding to step (4). NOTE: rough static convergence adjustment to be completed in step 9-2-(1) – 9-2-(7).

(4) Pull off tip plugs "G-Y" from top of main PWB to obtain magenta colour (R&B).
(5) Loosen deflection yoke set screw and pull to rear of tube.
(6) The two fingers of purity magnet must be on top of each other, and relative position of 9 o'clock and 3 o'clock position (180°) must be maintained when rotated, until vertical magenta strip appears in center of screen.
(7) By visually watching screen, move deflection yoke forward, until optimum purity position reached, tighten deflection yoke set screw lightly.
(8) Re-connect "G"-"Y" tip and should obtain even white screen, if even white colour not obtained, repeat steps (4) – (8).
(9) To adjust white balance, service switch (SW-701) to be in "service" position and obtain horizontal strip on screen.
If horizontal strip is tilted, rotate deflection yoke to center physically in center of CRT.
(10) Return service SW to "normal" and confirm entire screen area purity. If purity magnet rotated during step (9), perform fine adjustment of purity with magenta colour.
(11) If necessary repeat steps (4) – (10).
(12) Tighten deflection yoke set screw at 14 kg torque.
(13) After completing purity adjustment, adjust CRT focus to optimum.
Adjust focus contrast and bright in MAX position, adjust to optimum condition as per Fig. 9.

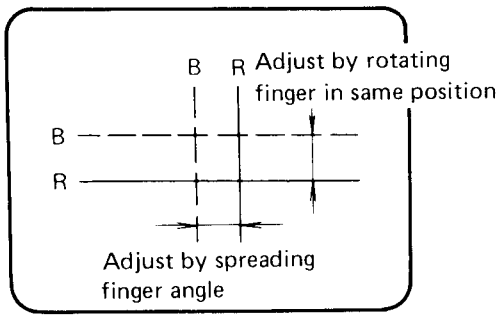


Visually check monoscope pattern contrast chart zone 3 & 4, adjust focus to optimum condition.

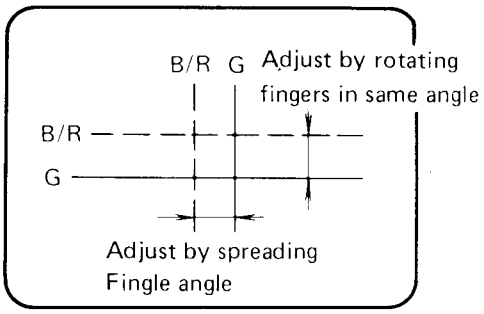
Fig. 9

NOTE: Pis type CRT focus obtained by changing voltage, which also affects static convergence, therefore, CRT focus should be performed prior to adjusting purity or static convergence.
The adjustment specification of step (4) for putity by pulling deflection yoke to rear of CRT neck full length provides a narrow magenta strip which makes easier to obtain left and right balance, however, since large movement of deflection yoke is required to obtain optimum brilliance, it is difficult to obtain accurate purity. Therefore, during step (4), push deflection yoke forward against CRT funnel, deflection yoke will not bow and easier to confirm horizontal strip, and since movement of deflection yoke to obtain optimum brilliance is minimum, accurate purity can be obtained.

9-2 Static convergence adjustment.
(1) Input cross hatch pattern signal on CH-7, adjust contrast, bright to minimise black portion of pattern.
(2) Dis-connect "G"-"Y" tip from top of main PWB, only RED and GREEN gun operative.
(3) 4-Pole magnet finger (refer to Fig. 8) to be spread until RED and GREEN strip in center of screen is marged.
(4) Next with same finger spread, rotate two fingers of 4-Pole magnet together in same relative position until RED and GREEN horizontal strip is obtained and marged.
If strip position is not same, hold position and change angle of finger to obtain fine adjustment. (Refer to Fig. 8.)
(5) Re-connect "G"-"Y" tip to obtain all RED, GREEN and BLUE.
(6) Two fingers of 6-Pole magnet finger spread (refer to Fig. 8) to align RED and BLUE vertical strip to GREEN strip on center of screen.
(7) Next with two fingers spread angle in same position, rotate two fingers of 6-Pole magnet at same time until RED and BLUE strip is aligned to GREEN horizontal strip. When vertical strip is not aligned properly, change spread angle of two fingers without rotating to obtain fine adjustment (refer to Fig. 8).
(8) If adjustment steps (3) – (4) are properly made, RED, BLUE, and GREEN 3 colour alignment can be obtained, however, if alignment is not possible, repeat steps (3) – (4), until proper 3 colour alignment is obtained.



4-Pole magnet adjustment ("R" & "B")



6-Pole magnet adjustment ("B/R" & "G")

Fig. 10 Static convergence adjustment

PARTS LOCATION FOR ALIGNMENT

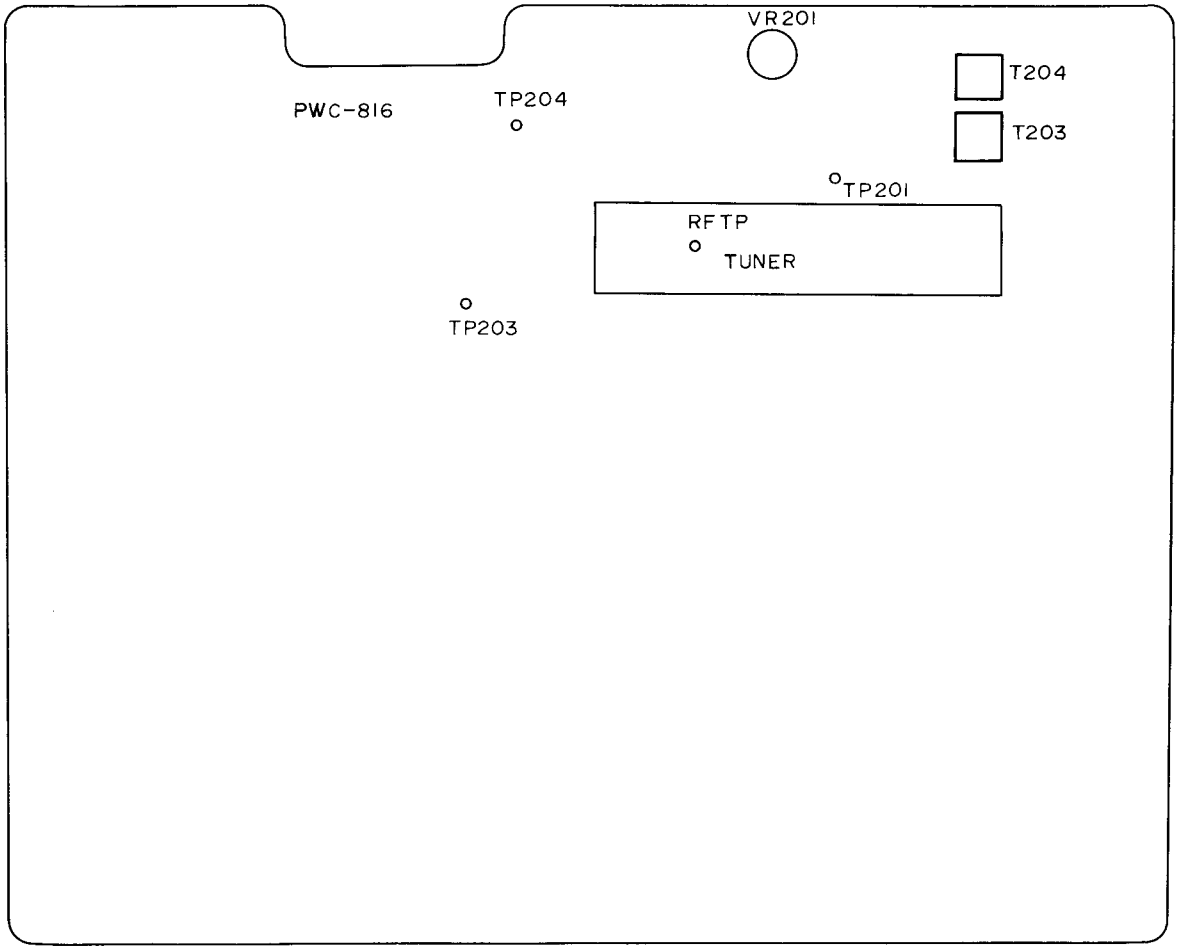


Fig. 11

RADIO SECTION

1. AM SECTION ALIGNMENT

1-1 IF Alignment

(1) Preparation

Instruments will be connected as shown below.

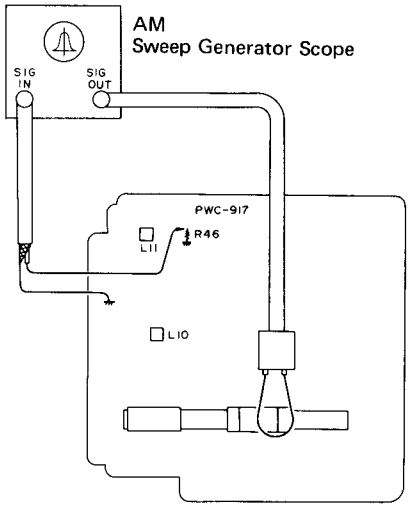


Fig. 12

(2) Alignment

	Set Signal Generator to	Set Radio Dial to		Adjustment
	455 KHz	Min	L10, L11	Adjust to maximum amplitude and symmetry on the sweep generator scope.

1-2 RF Alignment

MW BAND

(1) Preparation

Instruments will be connected as shown below.

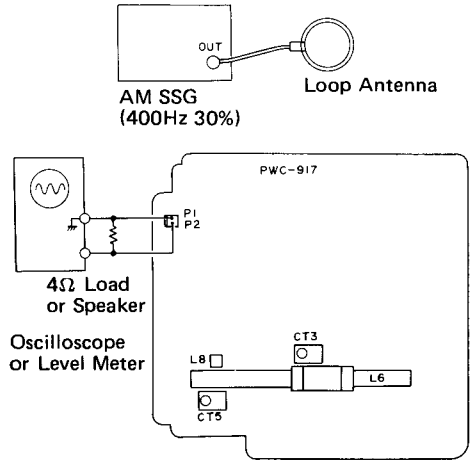


Fig. 13

(2) Alignment

Step	Set Signal Generator to	Set Radio Dial to		Adjustment
1	515 KHz	Min.	L8	Adjust for maximum output on the level meter (or oscilloscope).
2	1650 KHz	Max.	CT5	
3	Repeat steps 1 and 2.			
4	600 KHz	600 KHz	L6	
5	1400 KHz	1400 KHz	CT3	
6	Repeat steps 4 and 5.			

SW BAND

(1) Preparation

Instruments will be connected as shown below.

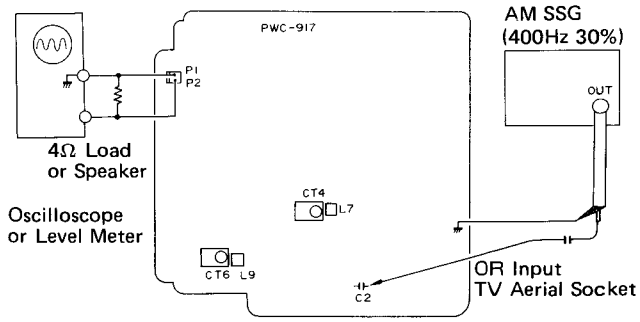


Fig. 14

(2) Alignment

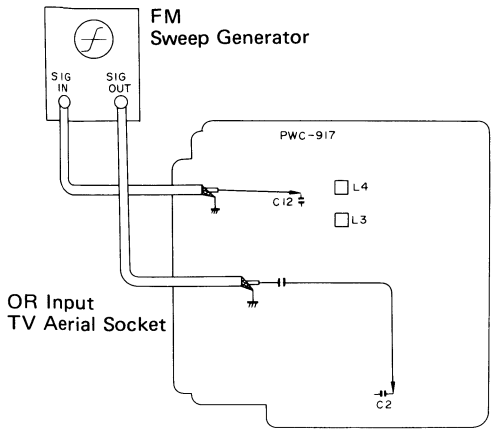
Step	Set Signal Generator to	Set Radio Dial to		Adjustment
1	3.7 MHz	Min.	L9	Adjust for maximum output on the level meter (or oscilloscope).
2	12.5 MHz	Max.	CT6	
3	Repeat steps 1 and 2			
4	4.5 MHz	4.5 MHz	L7	
5	11.0 MHz	11.0 MHz	CT4	
6	Repeat steps 4 and 5.			

2. FM SECTION ALIGNMENT

2-1 IF Alignment

(1) Preparation

Instruments will be connected as shown below.



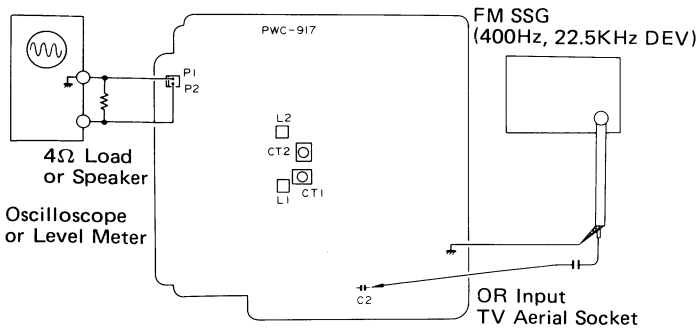
(2) Alignment

	Set Signal Generator to	Set Radio Dial to	Adjustment	
	10.7 MHz	Min.	L3, L4	Adjust to obtain maximum amplitude and best "S" curve.

2-2 RF Alignment

(1) Preparation

Instruments will be connected as shown below.



(2) Alignment

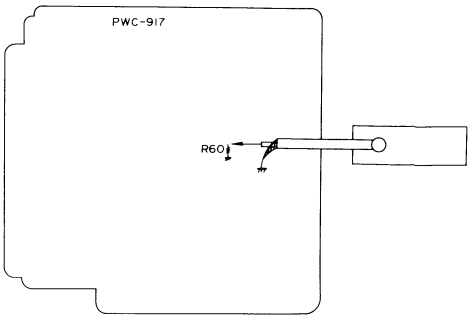
Step	Set Signal Generator to	Set Radio Dial to	Adjustment	
1	87.4 MHz	Min.	L2	Adjust for maximum output on the level meter (or oscillo-scope).
2	109 MHz	Max.	CT2	
3	Repeat steps 1 and 2.			
4	90 MHz	90 MHz	L1	
5	106 MHz	106 MHz	CT1	
6	Repeat steps 4 and 5.			

CASSETTE SECTION

1. BIAS FREQUENCY AND BIAS TRAP ALIGNMENT

(1) Preparation

○ Instruments will be connected as shown below.



○ Insert the blank tape (TEAC MTT-502 or equivalent) in the cassette compartment, and set the receiver to "RECORD" mode.

(2) Alignment

	Adjustment	
BIAS FREQUENCY	L12	Adjust to obtain 35 KHz on the frequency counter.

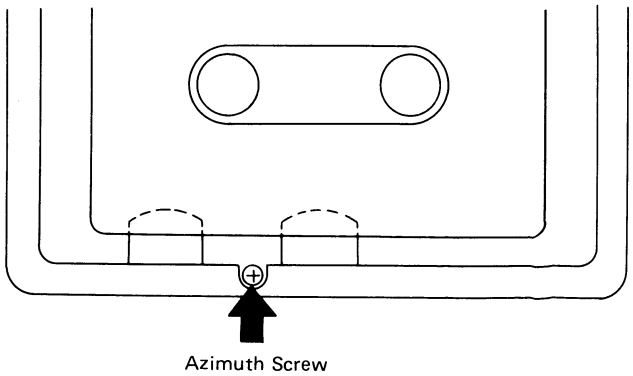
2. AZIMUTH ADJUSTMENT

(1) Connect the level meter to carphoe jack.

(2) Remove cassette compartment from the receiver.

(3) Reproduce play head azimuth alignment tape (TEAC, MTT-114 or equivalent).

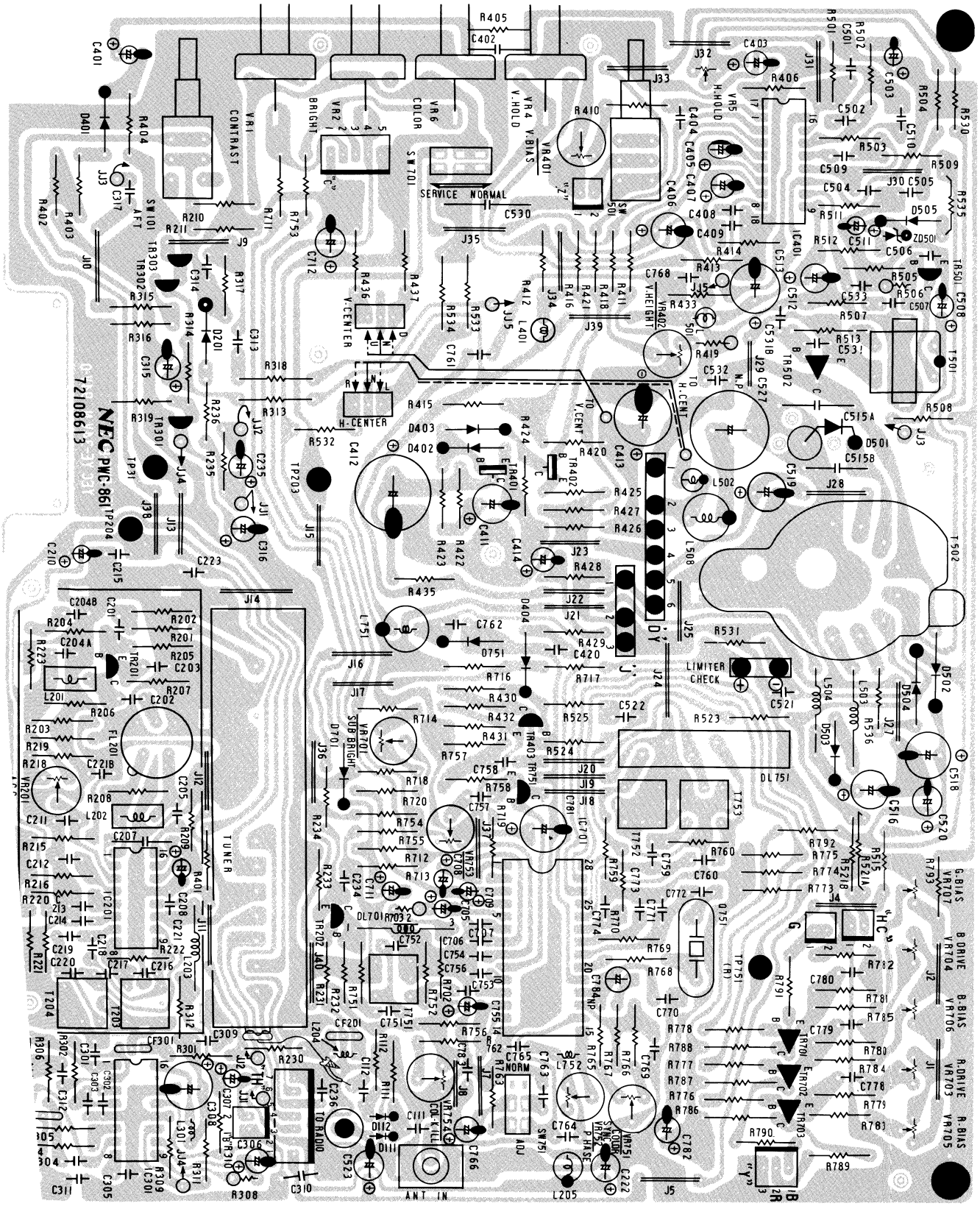
(4) Adjust azimuth screw to obtain maximum output on the level meter.



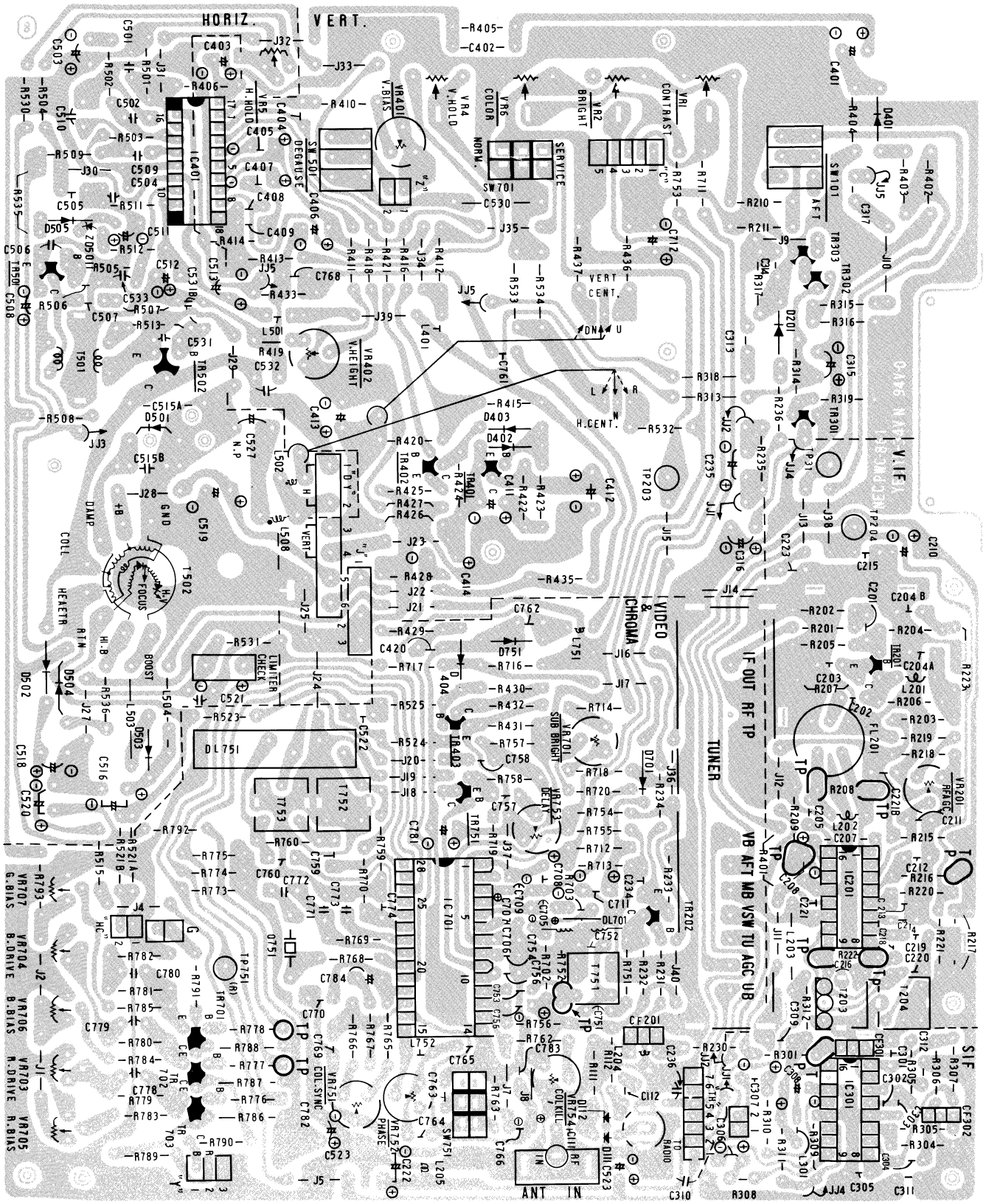
MAIN PWB ASSEMBLY

(PWC-861)

Component Side

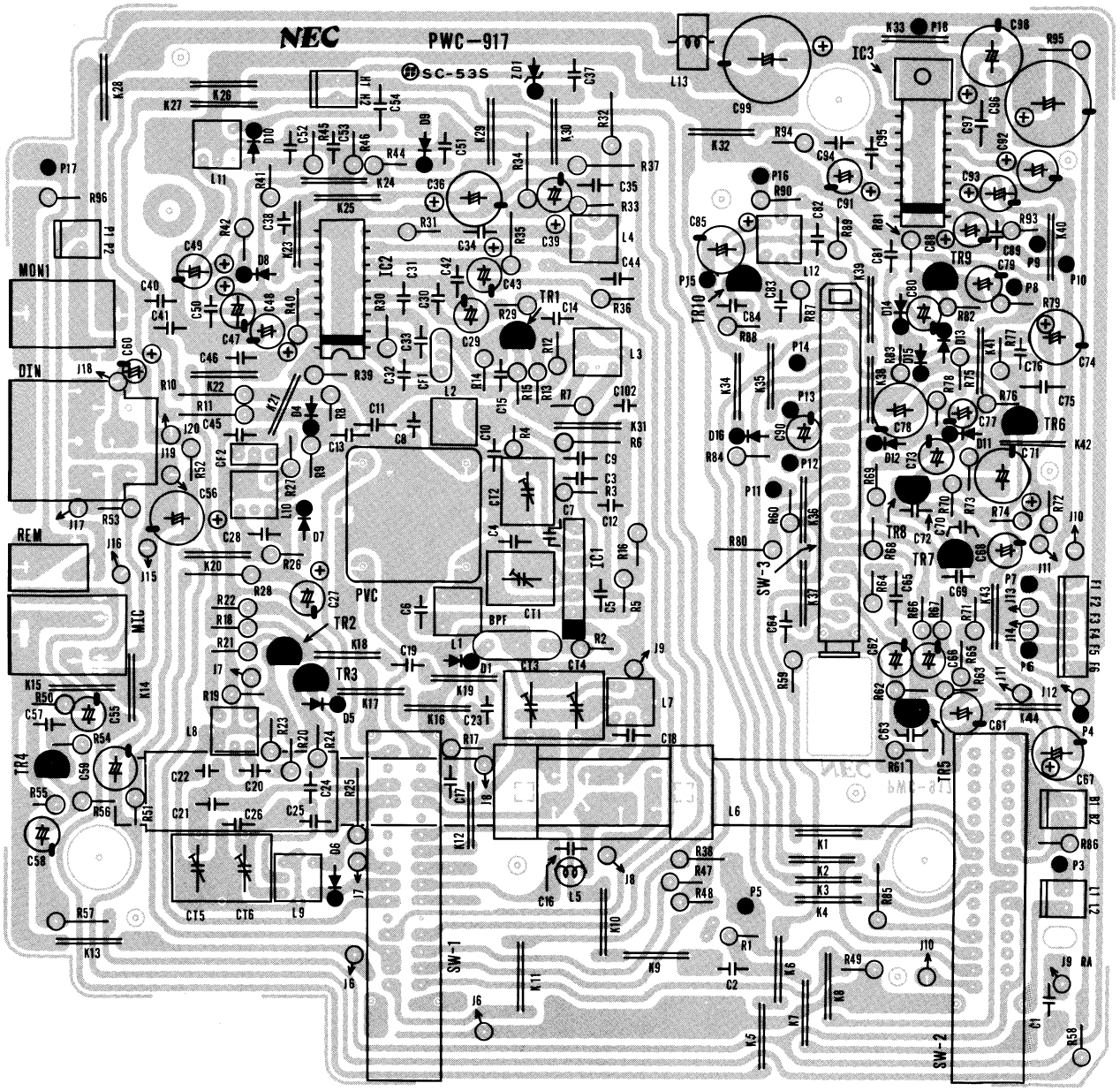


Solder Side

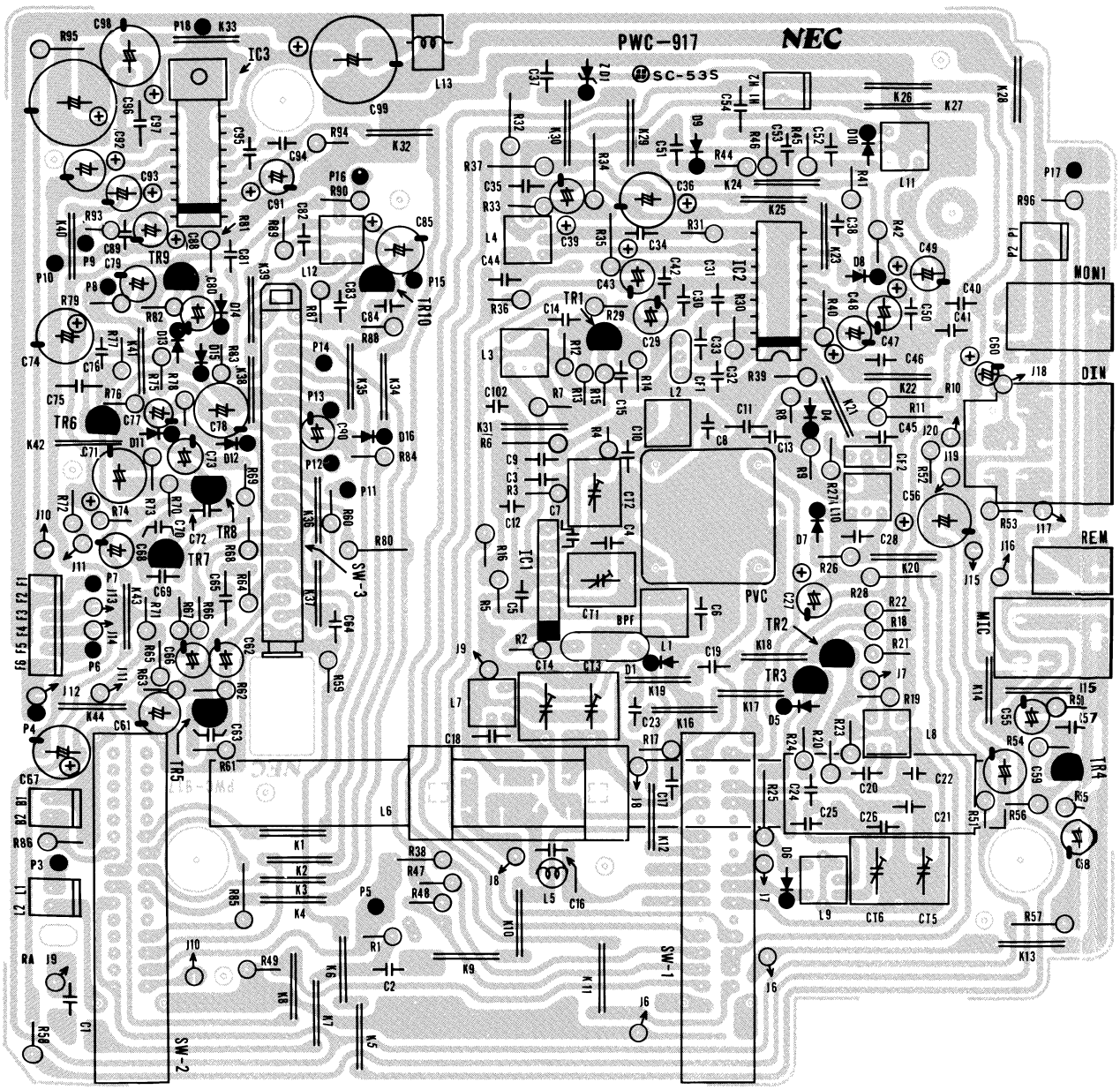

HORIZ.
VERT.
V.I.F.
VIDEO & CHROMA
IF OUT RF TP
TUNER
VB AFT MB VSW TU AGC UB
SIF
ANT IN
H.CENT.
VERT CENT.
V.HEIGHT
V.HOLD
V.BIAS
COLOR
BRIGHT
CONTRAST
SERVICE
AFT
FOCUS
SUB BRIGHT
DELAY
COL.KILL
PHASE
COL.SYNC
R.DRIVE
B.DRIVE
G.BIAS
R.BIAS
DEGAUSS
LIMITER CHECK
BOOST
DAMP
COIL
HEATER
RADIO

RADIO CASSETTE UNIT PWB ASS'Y

Component Side

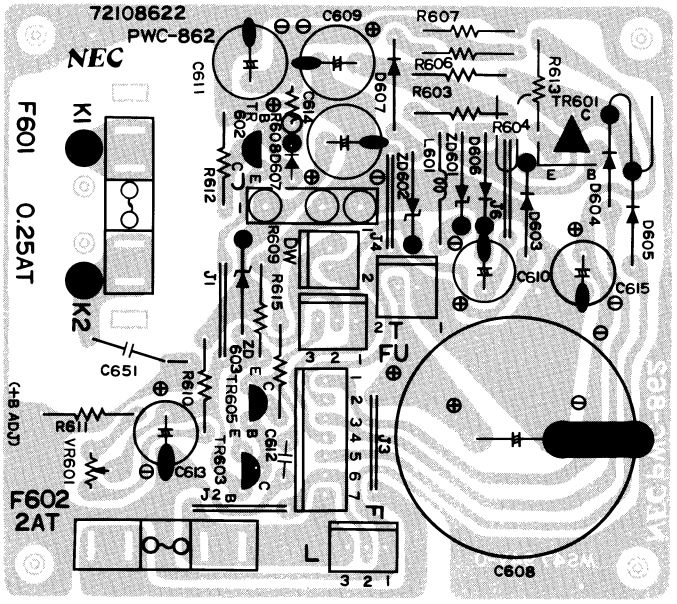


Solder Side

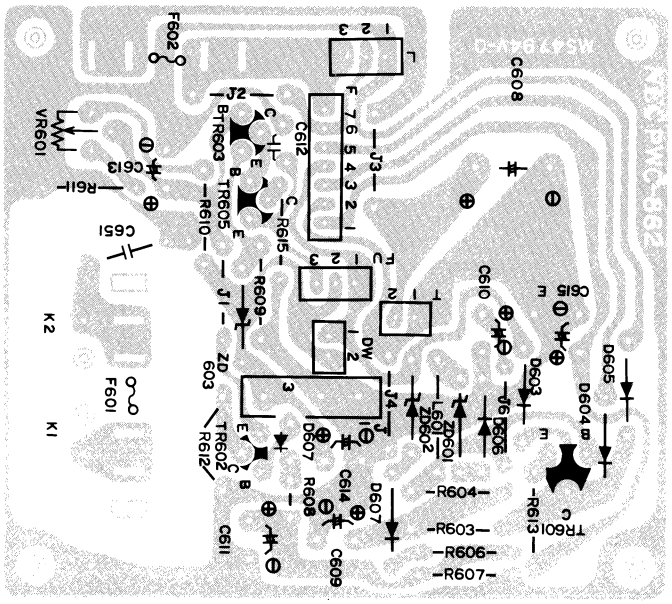

PWC-917
NEC
SC-535
IC3
IC2
TR1
TR2
TR3
TR4
TR5
TR6
TR7
TR8
TR9
TR10
MONI
DIN
REM
MIC
PVC
BPF
SW-1
SW-2
SW-3

DC-PS PWB ASSEMBLY
(PWC-862)

Component Side

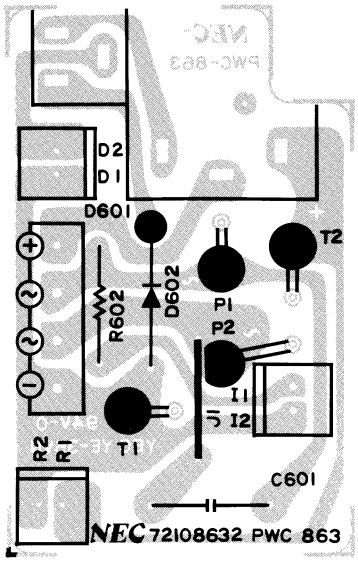


Solder Side

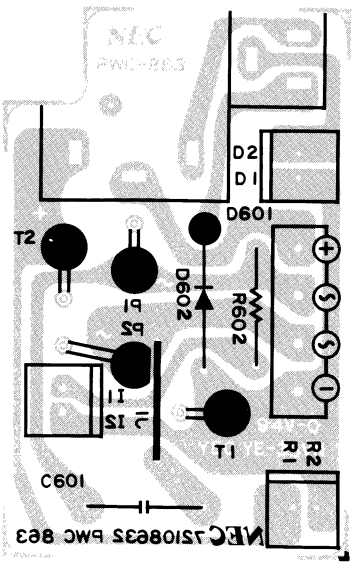


AC-PS PWB ASSEMBLY
(PWC-863)

Component Side

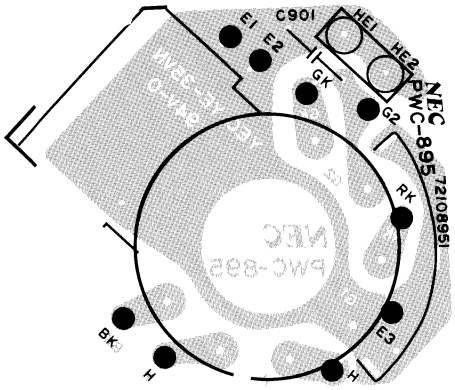


Solder Side

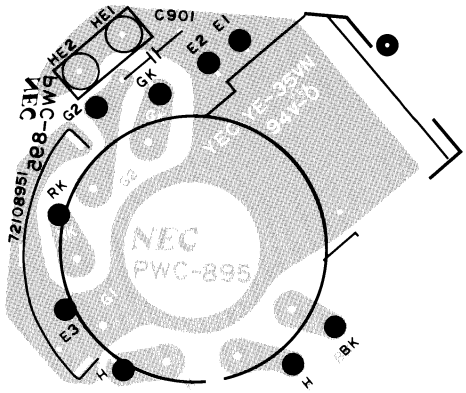


CRT PWB ASSEMBLY
(PWC-895)

Component Side

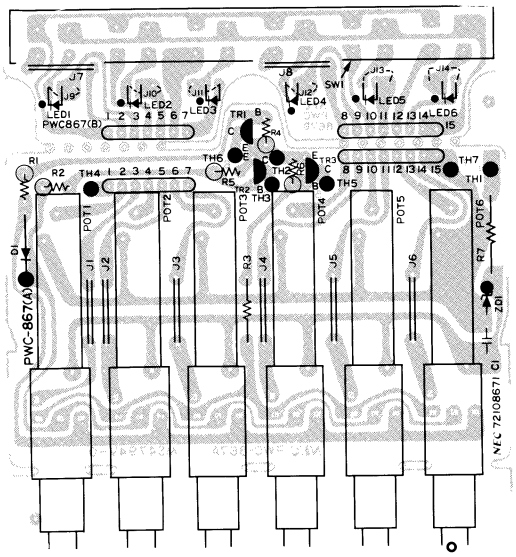


Solder Side

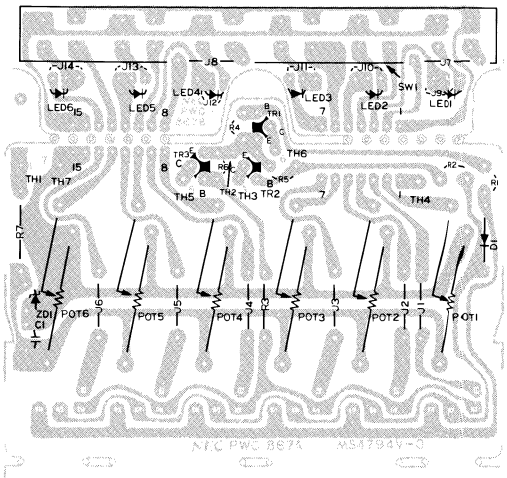


CH. SELECTOR PWB ASS'Y
(PWC-867A/B)

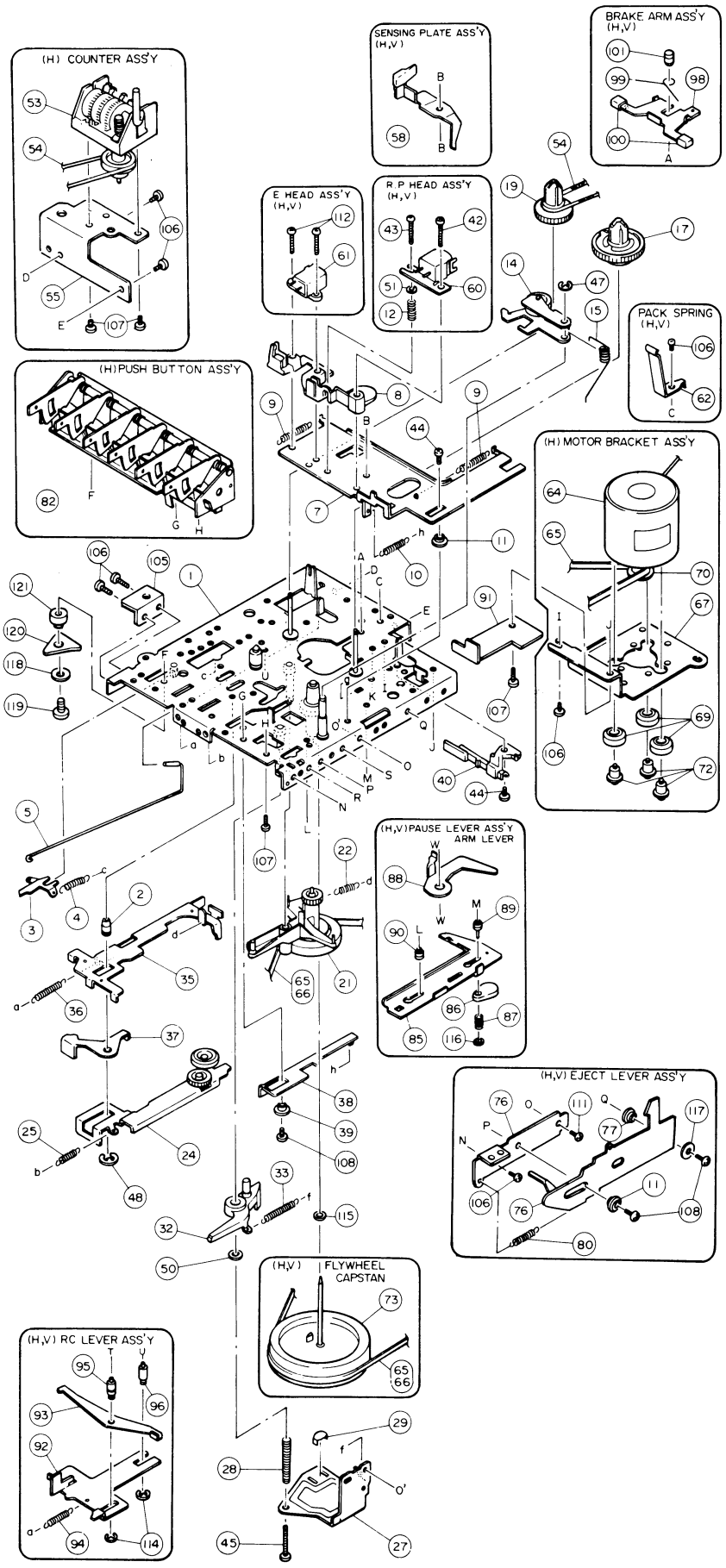
Component Side



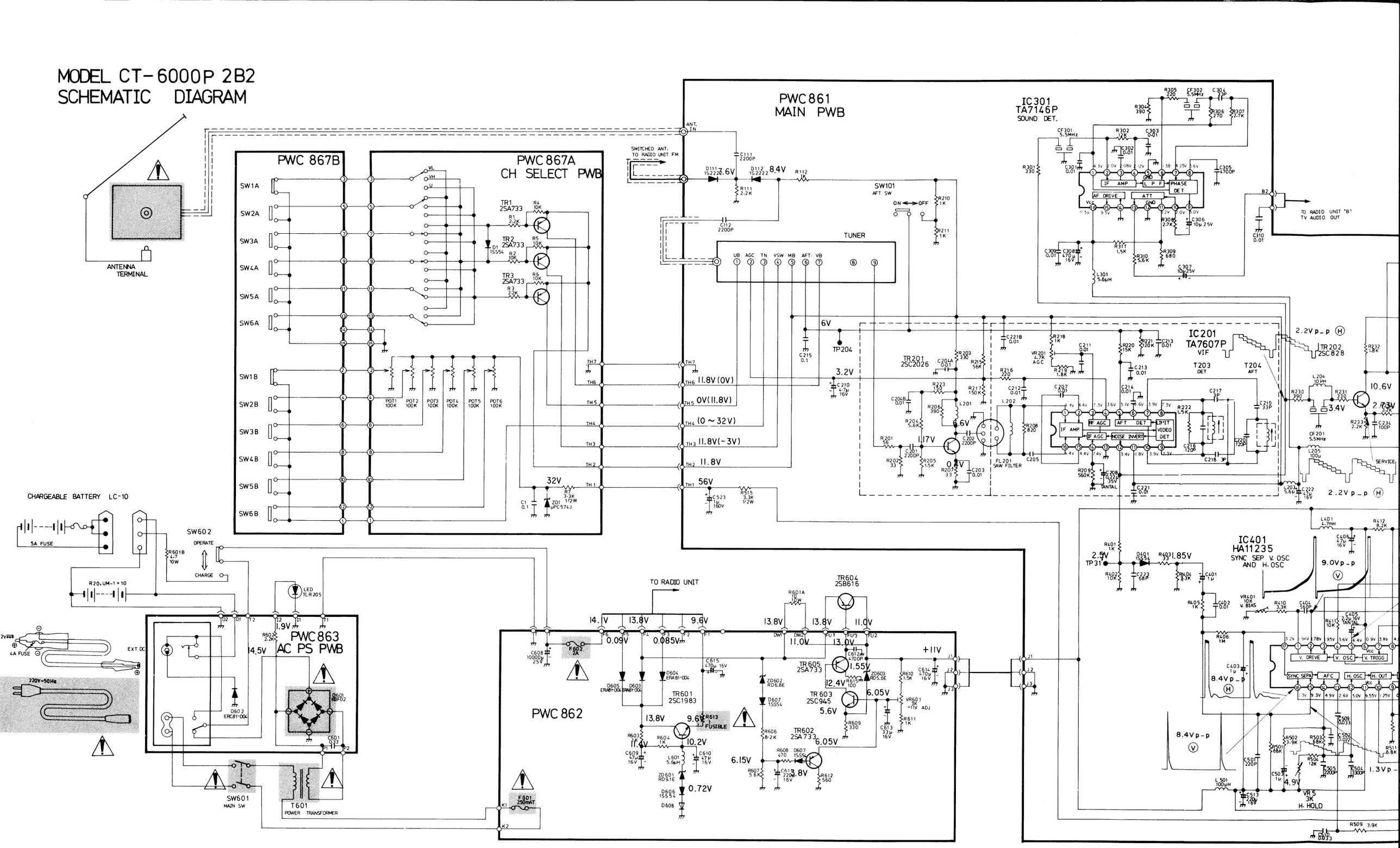
Solder Side



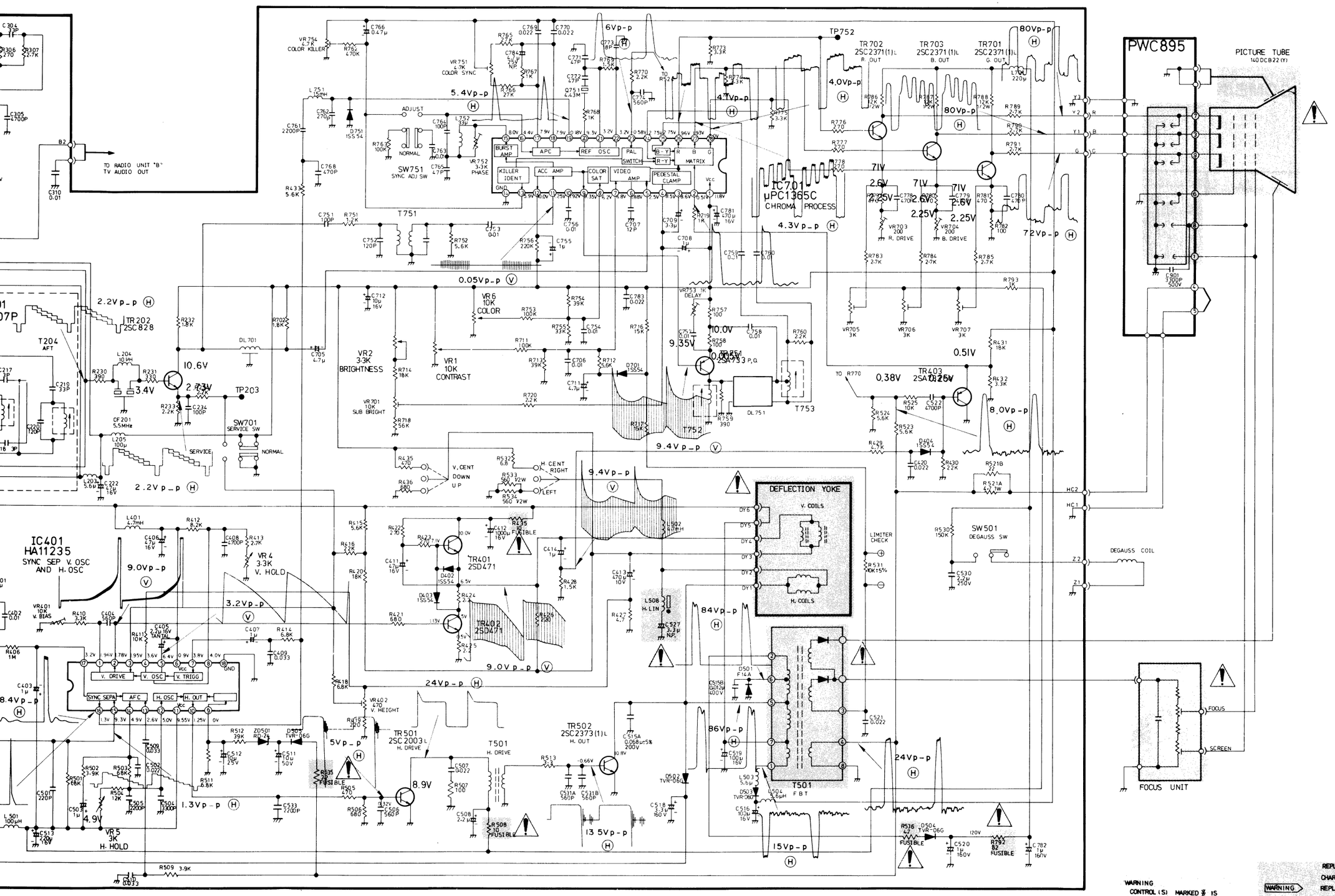
EXPLODED VIEW OF MECHANISM UNIT



MODEL CT-6000P 2B2
SCHEMATIC DIAGRAM



MC-Service



NOTES

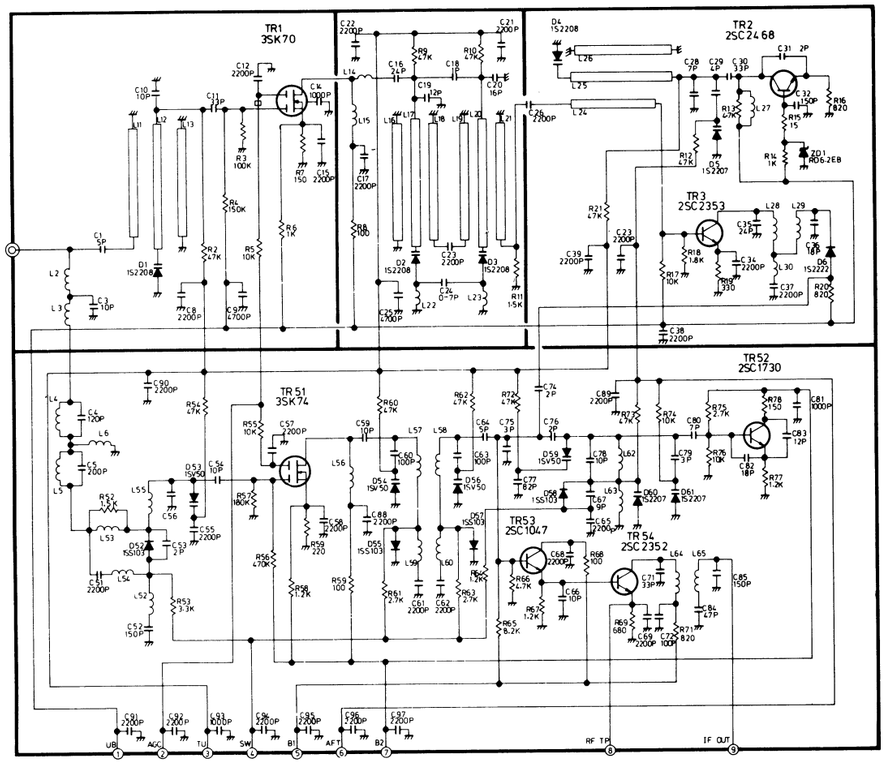
(1) RESISTOR VALUES ARE IN Ω(OHM) K=1000Ω M=1000,000Ω
(2) ALL RESISTORS ARE 1/4 WATT. EXCEPT WHERE OTHERWISE INDICATED.
(3) CAPACITOR VALUES ARE IN μF UNLESS OTHERWISE INDICATED. P= PI
(4) ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICAT
(5) VOLTAGES AND WAVEFORMS MEASURED UNDER AVERAGE COLOR SIGNAL INPUT AND CONTRAST, BRIGHTNESS, CONTROL AT MAXIMAM, ALL OTHER CONTROLS SET FOR NORMAL OPERATION.
(6) (H)----HORIZONTAL RATE. (V)---- VERTICAL RATE.

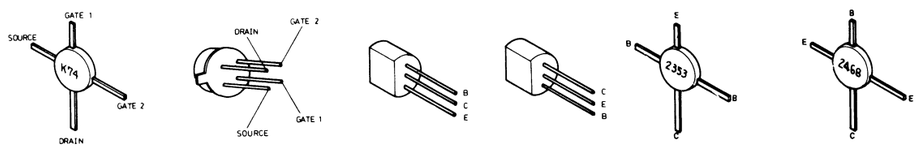
WARNING
CONTROL (S) MARKED ※ IS PARMANENTLY FROZEN.
DO NOT ATTEMPT TO DEFEAT OR INPROPERLY REPLACE.

WARNING
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY ⚠ SHADING ON THE SCHEMATICS.
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

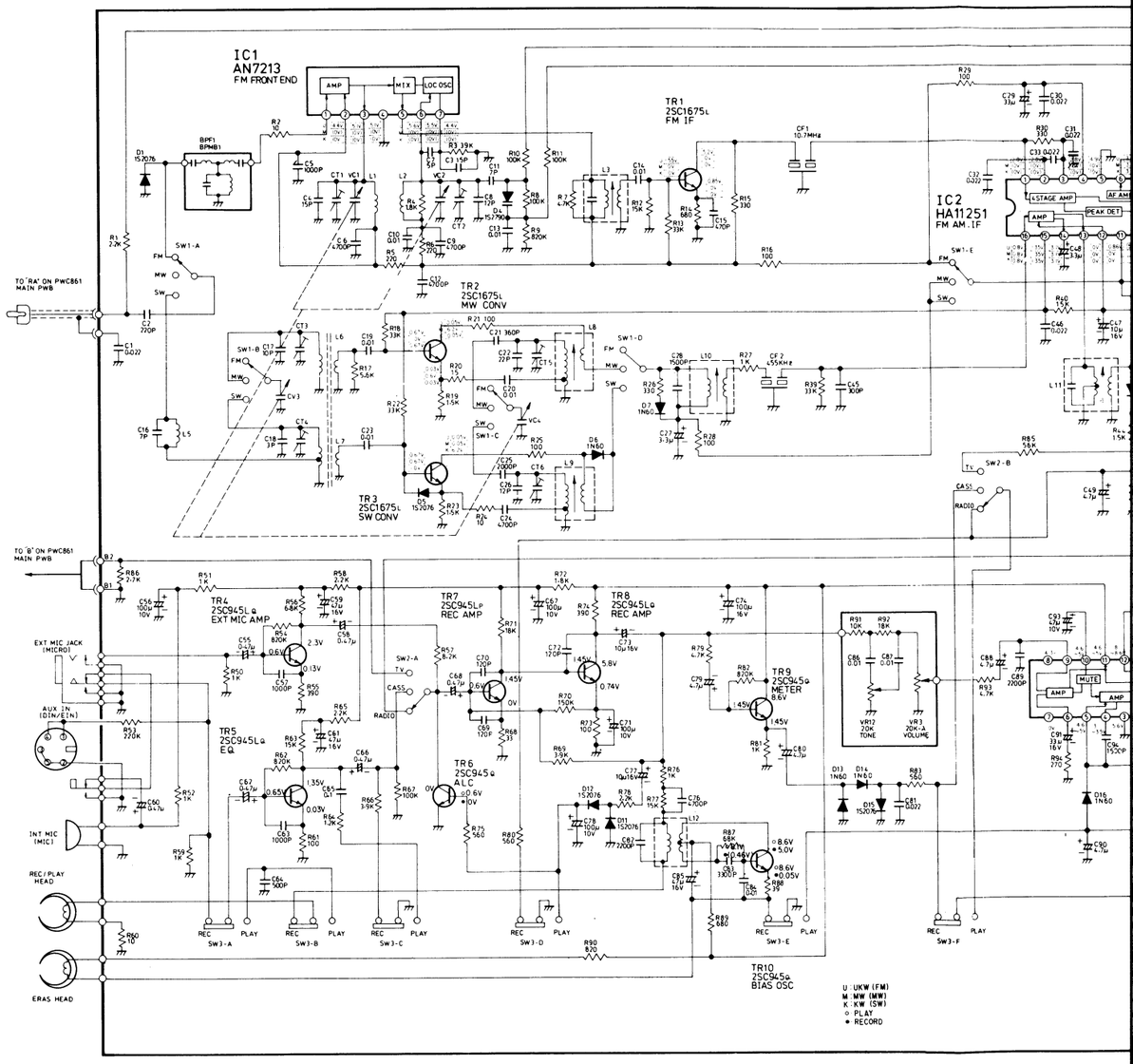
CT-6000P-2B2
78068661

UHF VHF COMBINATION TUNER

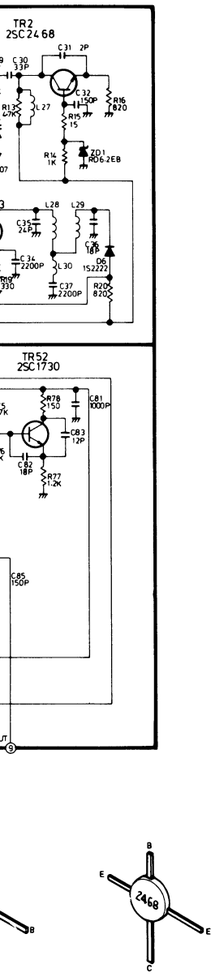


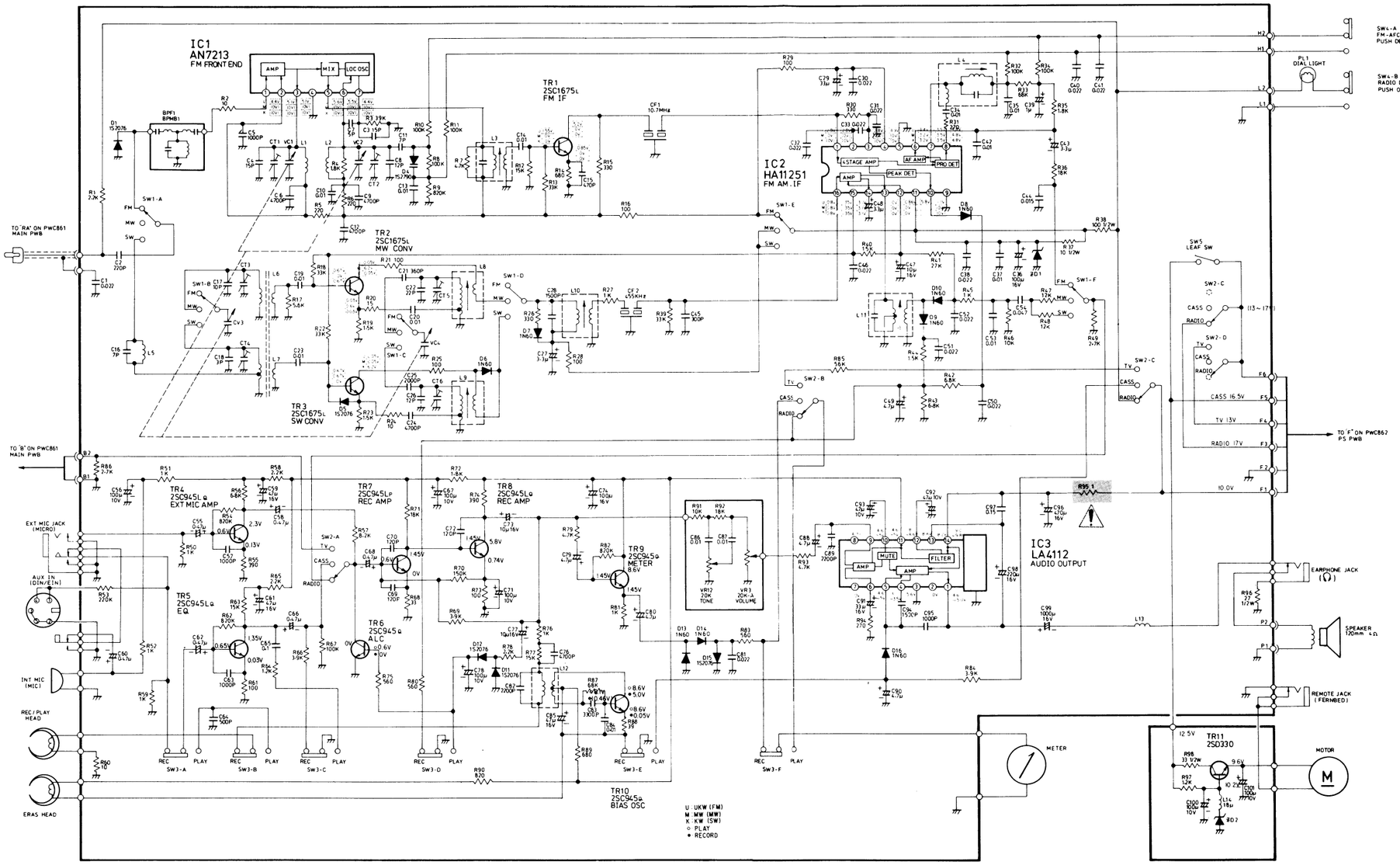


RADIO CASSETTE UNIT



RADIO CASSETTE UNIT



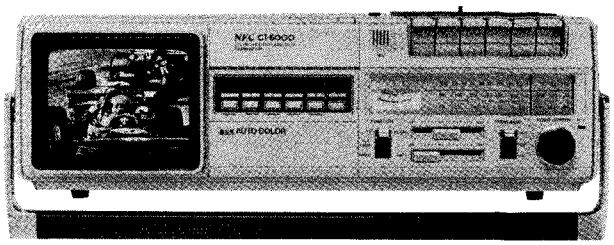


REPLACEMENT PARTS LIST

FOR

NEC

COLOUR - TELEVISION



CT-6000P-2B2

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
			Transistors		
	TR1, 2, 3, 403, 602, 605, 751	35003516	Transistor, 2SA733/733A P	7	
	TR604	35025617	Transistor, 2SB616 Q	1	
	TR202	35045415	Transistor, 2SC828 O	1	
	TR603	35047216	Transistor, 2SC945 P	1	
	TR601	35053500	Transistor, 2SC1983	1	
	TR201	35053700	Transistor, 2SC2026	1	
	TR701, 702, 703	35053812	Transistor, 2SC2371 (1) L	3	
	TR501	35054112	Transistor, 2SC2003 L	1	
	TR502	35055512	Transistor, 2SC2373 (1) L	1	
	TR401, 402	35063512	Transistor, 2SD471 L	2	
			Diodes		
	D301	36001010	Diode, Si. 2S-2472	1	
	D1, 607, 609	36001015	Diode, Si. 1SS54	3	
	D111, 112	36001016	Diode, Si. 1S2222	2	
	ZD601	36003037	Diode, Zener RD9.1EB	1	
	ZD1	36003049	Diode, Zener MPC-574J	1	
	ZD602	36003060	Diode, Zener RD-6.8E	1	
	ZD603	36003068	Diode, Zener RD5.6E (B)	1	
	ZD501	36003107	Diode, RD24E (B)	1	
	D201, 401, 402, 403, 404, 751	360K1015	Diode, Si. 1SS54	7	
	D501	36107059	Rectifier, Si. GP25G	1	
	D504, 505	36107160	Rectifier, Si. TVR-06G	2	
	D603, 604, 605	36107279	Rectifier, Si. ERA81-004	3	
	D602	36107280	Rectifier, Si. ERC81-004	1	
	D601	36108006	Diode, KBF02	1	
	D502, 503, 504, 505	360K7160	Rectifier, Si. TVR-06G	4	

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	LED1	36801034	Diode, Light-E TLR208	1	
	D606	38005011	Varister, VD1220	1	

ICs

	IC301	37001021	IC, TA7146P (SND)	1	
	IC701	37003015	IC, μPC1365C	1	
	IC201	37007011	IC, TA7607AP (VIF)	1	
	IC401	37009010	IC, HA11235	1	

Electrical Parts

	VR503	39603103	Focus Unit	1	
	VR503	39603103	Focus Unit	1	
	T601	45025406	Trans., Power	1	
	T501	45802002	Trans., H. Drive	1	
	T502	47105097	F.B.T.	1	
		48007059	Deflection Yoke	1	
		5863445D	Tuner, Comb (ED3445, E)	1	
	T203, 204	60226029	V. IFT, P DET-AFT	2	
	T751	60517015	Filter, Chroma Band Pass	1	
	T752	60565009	Coil	1	
	T753	60565010	Coil	1	
	L508	60917033	Coil, H. LIN	1	
	L503	61005004	Coil, Filter 5.6μH	1	
	L201	61011023	Coil-A, 38MHz	1	
	L202	61011024	Coil-B, 38MHz	1	
	L205	61052048	Coil, Filter	1	
	L401, 502	61064055	Coil, Filter 4.7mH	2	
	L751	61064061	Coil, Filter 15mH	1	
	L301, 601	61066014	Coil, Filter 5.6μH	2	
	L204	610E1017	Coil, Filter 10μH	1	
	L752	610E1023	Coil, Filter 33μH	1	
	L501	610E1029	Coil, Filter 100μH	1	
	L203, 504	610F6014	Coil, Filter 5.6μH	2	
	CF301	61105002	Filter, SIF 5.5MHz	1	
	CF201	61111004	Ceramic Trap 5.5MHz	1	
	CF302	61112002	Ceramic 5.5MHz	1	
	FL201	61120006	VIF SAWF 38m F1024	1	
	DL751	61511008	Delay Line	1	
	DL701	61511020	Delay Line 0.35US	1	
		63011209	Speaker (120mm 4Ω)	1	
	Q751	64003005	X' Tal	1	

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	SW701, 751	65105101	Switch, Slide	2	
	SW602	65117013	Switch, Slide	1	
	SW601	65209202	Switch, SFE-SAW	1	
	SW101	65314011	Switch, Push Button	1	
		65314501	Switch, Push Button	1	
	SW501	65399009	Switch, Push Button	1	
	F602	66671005	Fuse 2A	1	
	F601	66671025	Fuse 250mA	1	
		70800002	Line Cord, (E) AC	1	
		79690019	Radio, Cassette Unit	1	
		79690281	Coil, Degaussing	1	
		93940A01	AC-PS PWB Ass'y	1	
		93940D02	PS PWB Ass'y	1	
		93940F02	Main PWB Ass'y	1	
		93940G01	CRT PWB Ass'y	1	
		93940P01	CH-SLT PWB Ass'y	1	
		93940R01	LED PWB Ass'y	1	
		93940T01	6P Tuning Unit	1	

Picture Tube

	CRT	33005001	CRT 140DCB22 (Y) T, PIS	1	

Cabinet Parts

		24312441	Cabinet, Front	1	
		24312461	Cabinet-T, Back	1	
		24312482	Cabinet-B, Back	1	
		24425112	Case, Cassette	1	
		24425131	Cover, Battery	1	
		24425141	LiD	1	
		24425241	Escutcheon Side	1	
		24425251	Hinge	2	
		24425281	Sleeve (Dry Battery)	1	
		24425511	Handle	1	
		24425821	Cover	1	
		24427091	Case, Protection	1	

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
			Knobs		
		24425051	Tuning Driver	1	
		24464161	Button, Push	2	
		24464991	Knob, Tuning	1	
		24465022	Knob, Slide Control	2	
		24465031	Knob, Lever	2	
		24465042	Button, Push	6	
		24465171	Button, Push	1	
		24465381	Guide	2	
			Controls		
	VR1, 6	41042851	R, Variable 20KΩ 0.2W	2	
	VR2, 4	41042852	R, Variable 3KΩ 0.2W	2	
	VR401	41061001	R, Variable 10KΩ 0.15W	1	
	VR753	41061002	R, Variable 1KΩ 0.15W	1	
	VR752	41061003	R, Variable 3.3KΩ 0.15W	1	
	VR402	41061007	R, Variable 470Ω 0.15W	1	
	VR201, 751, 754	41061511	R, Variable 4.7KΩ	3	
	VR701	41061513	R, Variable 10KΩ 0.15W	1	
	VR5, 601, 705, 706, 707	41087101	R, Variable 3KΩ 0.2W	5	
	VR703, 704	41087102	R, Variable 200Ω 0.2W	2	
	POT1, 2, 3, 4, 5, 6	41098101	R, Variable 100KΩ SW	6	
			Resistors		
	R521B	40003017	R, Solid 22Ω 10% ½W	1	
	R533, 534	40003034	R, Solid 560Ω 10% ½W	2	
	R515	40003043	R, Solid 3.3KΩ 10% ½W	1	
	R786, 787, 788	40003050	R, Solid 12KΩ 10% ½W	3	
	R7	40003185	R, Solid 3.3KΩ 5% ½W	1	
	R513	40106113	R, Carbon 3.3KΩ 5% ¼W	1	
	R615	40106149	R, Carbon 100Ω 5% ¼W	1	
	R235	40106153	R, Carbon 150Ω 5% ¼W	1	
	R305	40106157	R, Carbon 220Ω 5% ¼W	1	
	R609	40106161	R, Carbon 330Ω 5% ¼W	1	
	R304	40106163	R, Carbon 390Ω 5% ¼W	1	
	R612	40106167	R, Carbon 560Ω 5% ¼W	1	
	R603, 604, 611	40106173	R, Carbon 1KΩ 5% ¼W	3	
	R610, 703	40106177	R, Carbon 1.5KΩ 5% ¼W	2	
	R3, 602	40106181	R, Carbon 2.2KΩ 5% ¼W	2	
	R606	40106195	R, Carbon 8.2KΩ 5% ¼W	1	

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION				Q'TY	REMARKS
	R236	40106197	R, Carbon	10KΩ	5%	¼W	1	
	R504	40106199	R, Carbon	12KΩ	5%	¼W	1	
	R607	40106215	R, Carbon	56KΩ	5%	¼W	1	
	R530	40106225	R, Carbon	150KΩ	5%	¼W	1	
	R406	40106245	R, Carbon	1MΩ	5%	¼W	1	
	R419	40112157	R, Carbon	220Ω	5%	¼W	1	
	R608	40112165	R, Carbon	470Ω	5%	¼W	1	
	R506	40112169	R, Carbon	680Ω	5%	¼W	1	
	R703	40112177	R, Carbon	1.5KΩ	5%	¼W	1	
	R1	40112181	R, Carbon	2.2KΩ	5%	¼W	1	
	R308	40112183	R, Carbon	2.7KΩ	5%	¼W	1	
	R2, 4, 5, 6	40112197	R, Carbon	10KΩ	5%	¼W	4	
	R424, 425	401K2609	R, Carbon	2.2Ω	5%	¼W	2	
	R427	401K2617	R, Carbon	4.7Ω	5%	¼W	1	
	R532	401K2621	R, Carbon	6.8Ω	5%	¼W	1	
	R202, 207, 403	401K2637	R, Carbon	33Ω	5%	¼W	3	
	R201	401K2643	R, Carbon	56Ω	5%	¼W	1	
	R312, 507, 757, 758, 782	401K2649	R, Carbon	100Ω	5%	¼W	5	
	R223, 235	401K2653	R, Carbon	150Ω	5%	¼W	2	
	R216, 426	401K2657	R, Carbon	220Ω	5%	¼W	2	
	R306, 422, 423, 776, 777, 778	401K2659	R, Carbon	270Ω	5%	¼W	6	
	R203, 231, 301	401K2661	R, Carbon	330Ω	5%	¼W	3	
	R206, 230, 759	401K2663	R, Carbon	390Ω	5%	¼W	3	
	R505, 779, 780, 781	401K2665	R, Carbon	470Ω	5%	¼W	4	
	R309, 421, 437	401K2669	R, Carbon	680Ω	5%	¼W	3	
	R208, 436, 524	401K2671	R, Carbon	820Ω	5%	¼W	3	
	R112, 210, 211, 218, 401, 405, 428, 719, 767, 768, 793	401K2673	R, Carbon	1KΩ	5%	¼W	11	
	R751	401K2675	R, Carbon	1.2KΩ	5%	¼W	1	
	R205, 222, 311, 769	401K2677	R, Carbon	1.5KΩ	5%	¼W	4	
	R219, 232, 233, 523, 702	401K2679	R, Carbon	1.8KΩ	5%	¼W	5	
	R234, 720, 760, 770	401K2681	R, Carbon	2.2KΩ	5%	¼W	5	
	R307, 413, 783, 764, 785, 789, 790, 791	401K2683	R, Carbon	2.7KΩ	5%	¼W	8	
	R404, 410, 432, 773, 774, 775	401K2685	R, Carbon	3.3KΩ	5%	¼W	6	
	R502, 509	401K2687	R, Carbon	3.9KΩ	5%	¼W	2	
	R415, 429	401K2689	R, Carbon	4.7KΩ	5%	¼W	2	
	R204, 310, 433, 712, 752	401K2691	R, Carbon	5.6KΩ	5%	¼W	5	
	R414, 418, 511	401K2693	R, Carbon	6.8KΩ	5%	¼W	3	
	R412	401K2695	R, Carbon	8.2KΩ	5%	¼W	1	

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	R236, 402, 411, 525, 531	401K2697	R, Carbon 10KΩ 5% ¼W	5	
	R302	401K2699	R, Carbon 12KΩ 5% ¼W	1	
	R220, 716, 717	401K2701	R, Carbon 15KΩ 5% ¼W	3	
	R420, 431, 714	401K2703	R, Carbon 18KΩ 5% ¼W	3	
	R416, 430	401K2705	R, Carbon 22KΩ 5% ¼W	2	
	R765, 766	401K2707	R, Carbon 27KΩ 5% ¼W	2	
	R755	401K2709	R, Carbon 33KΩ 5% ¼W	1	
	R512, 713, 754	401K2711	R, Carbon 39KΩ 5% ¼W	3	
	R215, 718	401K2715	R, Carbon 56KΩ 5% ¼W	2	
	R501, 503	401K2717	R, Carbon 68KΩ 5% ¼W	2	
	R711, 753, 763	401K2721	R, Carbon 100KΩ 5% ¼W	3	
	R221	401K2723	R, Carbon 120KΩ 5% ¼W	1	
	R217	401K2725	R, Carbon 150KΩ 5% ¼W	1	
	R756	401K2729	R, Carbon 220KΩ 5% ¼W	1	
	R762	401K2737	R, Carbon 470KΩ 5% ¼W	1	
	R209	401K2739	R, Carbon 560KΩ 5% ¼W	1	
	R601	40215505	R, Wire 10~4.7Ω 10% 30W	1	
	R521A	40351117	R, Metal 4.7Ω 5% 1W	1	
	R535	40405109	R, Metal 2.2Ω 5% ¼W	1	
	R536	40405117	R, Metal 4.7Ω 5% ¼W	1	
	R435, 508	40405125	R, Metal 10Ω 5% ¼W	2	
	R792	40405147	R, Metal 82Ω 5% ¼W	1	
	R613	40801004	R, Fuse 1Ω 500mA	1	

Capacitors

	C112, 205	42019517	C, Ceramic 50V 2200pF	2	
	C310	42029025	C, Ceramic 50V 10000pF	1	
	C213, 302, 303, 309, 311, 753, 754	42029525	C, Ceramic 50V 0.01μF	7	
	C532	42039567	C, Ceramic 500V 2200pF	1	
	C901	42039569	C, Ceramic 500V 3300pF	1	
	C111, 201, 202, 531A, 533, 761	420A9517	C, Ceramic 50V 2200pF	6	
	C203, 204A, 204B, 211, 212, 214, 221, 221B, 301, 310, 706, 756, 757, 758, 759, 760, 763	420B9525	C, Ceramic 50V 0.01μF	17	
	C533	42130217	C, Ceramic 50V 2200pF	1	
	C408	42130221	C, Ceramic 50V 4700pF	1	
	C1, 215, 236, 312	42199002	C, Ceramic 50V 0.1μF	4	
	C768, 778, 779, 780	421C0209	C, Ceramic 50V 470pF	4	
	C404, 506, 531B, 531B, 774	421C0210	C, Ceramic 50V 560pF	5	

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	C522	421C0221	C, Ceramic 50V 4700pF	1	
	C207, 402	421C1025	C, Ceramic 25V 0.01μF	2	
	C707	42311023	C, Ceramic 50V 12pF	1	
	C223	42311041	C, Ceramic 50V 68pF	1	
	C778B, 779B, 780B	42311043	C, Ceramic 50V 82pF	3	
	C234	42311047	C, Ceramic 50V 120pF	1	
	C217, 218	42312003	C, Ceramic 50V 3pF	2	
	C773	42312063	C, Ceramic 50V 18pF	1	
	C219	42312069	C, Ceramic 50V 33pF	1	
	C216, 220	42313049	C, Ceramic 50V 120pF	2	
	C501	423A1053	C, Ceramic 50V 220pF	1	
	C762	423A1055	C, Ceramic 50V 270pF	1	
	C751, 764	423A2045	C, Ceramic 50V 100pF	2	
	C304	423A2069	C, Ceramic 50V 33pF	1	
	C765, 771, 772	423A2073	C, Ceramic 50V 47pF	3	
	C752	423A2101	C, Ceramic 50V 120pF	1	
	C515A	42703872	C, Film 400V 0.056μF	1	
	C515B	42704664	C, Film 400V 0.012μF	1	
	C612	42754005	C, Mylar 50V 4700pF	1	
	C310	42754013	C, Mylar 50V 0.1μF	1	
	C507, 783	42754067	C, Mylar 50V 0.022μF	2	
	C601	42754078	C, Mylar 50V 0.33μF	1	
	C530	42799038	C, Film 250V 2.2μF	1	
	C504	42799039	C, Film 100V 0.0033μF	1	
	C420, 502, 521, 769, 770	427E6009	C, Film 50V 0.022μF	5	
	C409, 509, 510	427E6010	C, Film 50V 33000pF	3	
	C505	427E6055	C, Film 50V 0.0022μF	1	
	C305	427E6059	C, Film 50V 0.0047μF	1	
	C520, 523, 782	43005116	C, Elec. 160V 1μF	3	
	C518	43005118	C, Elec. 160V 3.3μF	1	
	C413	43011019	C, Elec. 10V 470μF	1	
	C235	43011028	C, Elec. 16V 10μF	1	
	C613	43011030	C, Elec. 16V 33μF	1	
	C609, 610	43011031	C, Elec. 16V 47μF	2	
	C516	43011032	C, Elec. 16V 100μF	1	
	C513, 611	43011033	C, Elec. 16V 220μF	2	
	C412	43011036	C, Elec. 16V 1000μF	1	
	C709	43011068	C, Elec. 50V 3.3μF	1	
	C511	43011070	C, Elec. 50V 10μF	1	
	C766	43013071	C, Elec. 50V 0.47μF	1	
	C708	43014105	C, Elec. 50V 1μF	1	

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	C222	43015035	C, Elec. 16V 47μF	1	
	C308, 614, 615, 781	43016026	C, Elec. 16V 470μF	4	
	C519	43099008	C, Elec. 16V 100μF	1	
	C406, 411	430A1031	C, Elec. 16V 47μF	2	
	C235, 306, 307, 512, 712	430A1043	C, Elec. 25V 10μF	5	
	C401, 403, 407, 414, 503	430A1066	C, Elec. 50V 1μF	5	
	C508	430A1067	C, Elec. 50V 2.2μF	1	
	C210, 705, 711	430A1069	C, Elec. 50V 4.7μF	3	
	C208	430A4101	C, Elec. 50V 0.22μF	1	
	C755	430A4105	C, Elec. 50V 1μF	1	
	C608	43199018	C, Elec. 25V 10000μF	1	
	C784	43311022	C, Non-Polar 25V 4.7μF	1	
	C527	43312007	C, Elec. 50V 3.3μF	1	
	C405	435A5051	C, Tantalum 16V 2.2μF	1	

Packing Materials

		24806961	Bag, Polyethylene	1	
		24815821	Bag, Polyethylene	1	
		24816391	Carton Box	1	
		24816401	Filler-L, Carton	1	
		24816411	Filler-R, Carton	1	
		78016531	Instruction Book	1	
		78068661	Label, Schematic Diagram	1	

Miscellaneous Parts

		24425181	Bracket, CRT	1	
		62066041	Whip Antenna	1	
		70032241	Socket, SG/CRT	1	
		71121490	Terminal Board-A, Antenna	1	

Mechanical Parts

		TN-27H-76	Mechanism Unit	1	
14		0000094M	├Pinch Roller Ass'y	1	
17		0000095M	├Take Up Reel Ass'y	1	
19		0000096M	├Supply Reel Ass'y	1	
21		0000097M	├RF Clutch Ass'y	1	
24		0000098M	├FF Idler Arm Ass'y	1	
32		0000099M	├Auto-Stop Lever	1	
37		0000100M	├Rewind Arm	1	
40		0000101M	└Leaf Switch	1	

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
53		0000102M	├Counter	1	
54		0000103M	├Counter Belt	1	
60		0000104M	├R/P Head	1	
61		0000105M	├Erase Head	1	
64		0000106M	├Motor	1	
65		0000107M	├Main Belt	1	
70		0000108M	├Motor Pulley	1	
73		0000109M	├Flywheel Capstan	1	
82		0000110M	└Push Button Ass'y	1	
	VC	0000119M	Variable Capacitor	1	
	SW3	0000160M	Rec./PB. Switch	1	
	SW1	0000161M	Band Select Switch	1	
	CT1, 2	0000162M	Trimmer	2	
	VR3	0000163M	Volume 20KA	1	
	VR2	0000164M	Volume 20KB	1	
	L8	0000127M	MW OSC Coil	1	
	L9	0000128M	SW OSC Coil	1	
	L7	0000129M	SW Antenna Coil	1	
	L10	0000165M	AM IFT A	1	
	L11	0000166M	AM IFT C	1	
	L3	0000133M	FM IFT A	1	
	L4	0000167M	FM Descriminator	1	
	L12	0000168M	Recording Bias Coil	1	
	CF2	0000169M	AM Ceramic Filter	1	
	CF1	0000170M	Ceramic Filter	1	
	ZD1		Diode, RD5.6EB3	1	
	TR1, 2, 3	0000144M	Transistor, 2SC-1675 (L)	3	
	TR7, 5	0000145M	Transistor, 2SC-945 (L) P	2	
	TR4, 8	0000146M	Transistor, 2SC-945 (L) Q	2	
	TR6, 9, 10	0000147M	Transistor, 2SC-945A Q	3	
	IC3	0000171M	IC, LA4112	1	
	TR11	0000172M	Transistor, 2SD-330D	1	
	IC1	0000173M	IC, AN-7213	1	
	D1, 5, 11, 12, 15	0000150M	Diode, Is. 2076	5	
	CT34, 35	0000174M	Trimmer	2	
	IC2	0000153M	IC, HA-11251	1	
	D6, 7, 8, 9, 10, 13, 14, 16	0000148M	Diode, 1N-60	8	
	D4	0000149M	Varicap, 1S-2790WT	1	

EXPLODED VIEW NO.	SYMBOL NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	ZD2	0000175M	Zenner Diode	1	
		0000176M	Jack Board	1	
			Pin Jack	1	
	L6	0000178M	MW Antenna Coil	1	
	L5	0000179M	SW Trap Coil	1	
	L2	0000180M	FM OSC Coil	1	
	L1	0000181M	FM Ant. Coil	1	
	L13	0000182M	Fixed Inductor	1	
		0000183M	Inner Mic.	1	
	BPF1	0000184M	Band Pass Filter	1	
	SW2		Function Switch	1	
		24427201	Radio Frame	1	
		24427211	Drum Bracket	1	
		24424241	Drum	1	
		24427241	Pointer	1	
		24465941	Cassette Knob	6	
		24530971	Fec. Spring Holder	1	
		24530961	Recording Spring	1	
		24530941	P.C.B. Holder A	1	
		24530951	P.C.B. Holder B	1	
		24530981	Meter Holder	1	
		0000186M	Tuning Shaft	1	
		0000187M	Drum Spring	1	
		0000188M	Meter Cushion	1	
		0000189M	Double Face	1	
		0000190M	Mic Cushion	1	
		0000191M	Pulley	5	
		0000192M	Pulley	1	
		24427231	Stud Collar	2	
		0000193M	Dial Cord	1	
		0000194M	Poly Bag	1	
			Protector for Dial Scale (Mirror Mat)	1	
		24719131	Dial Scale	1	
		0000196M	Meter	1	
		0000197M	Lum	1	
		0000198M	Counter	1	